

**MAGNOLIA POWER PROJECT  
APPLICATION FOR CERTIFICATION  
RESPONSE TO CEC DATA REQUESTS  
01-AFC-06**

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**Technical Area: Air Quality**

**BACKGROUND**

Based on Permit Application Information submitted to South Coast Air Quality Management District (SCAQMD), staff is aware that a General Electric (7FA) turbine has been selected for this project. At the time the AFC was completed the final turbine selection between the General Electric (7FA) turbine and the Siemens-Westinghouse (501F) had not been completed, so the environmental analysis presented was based on the worst-case turbine. Additionally, there may be other major or minor changes to the project that may have occurred since the AFC was filed. Staff needs additional information to be assured that the project is being evaluated as currently proposed.

**Data Request 1:** Please identify any changes necessary to the air quality analysis based on the selected General Electric (7FA) turbine model. This should include any necessary revisions to the operating, start-up and commissioning emission totals and revisions to the modeling results as necessary to reflect the turbine selection and any other changes to the project that may have occurred since the AFC was filed.

**Response:** The applicant has indicated to the SCAQMD that the project will most likely purchase a General Electric (GE) 7Fa turbine. However, there is no firm commitment to this turbine model at this time. Therefore, the screening analysis performed including both the GE and the Siemens-Westinghouse turbines still applies to the proposed Magnolia Power Project (MPP). In addition, the refined modeling analysis included emissions and stack parameters consistent with the turbine resulting in the highest pollutant concentrations. Based on the screening analysis presented in the AFC, the Siemens-Westinghouse was chosen for the refined modeling analysis. Because the refined modeling analysis assumed worst-case operating conditions, and because all offsite modeled pollutant concentrations are below both Prevention of Significant Deterioration (PSD) and SCAQMD significant impacts levels, remodeling would not change the conclusions even if the GE turbine was ultimately installed. The worst case modeling approach



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has been used for several other AFCs and the applicant has not been required to remodel upon final turbine selection.



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**Data Request 2:** Please list any other revisions to the project or revisions to assumptions that affect the analysis of the project that would affect air quality emission or modeling results which have occurred since the AFC was filed. In particular, please clearly describe all sources to be added and decommissioned, with an anticipated schedule, as a result of the LM6000 turbine that is now proposed for the site.

**Response:** The LM6000 is the only additional source being proposed within the COB property boundary. It should be noted, however, that it is not part of the Magnolia Power Project and should not be considered as such. The LM6000 will be replacing the Magnolia 5 unit, an existing peaker unit. The construction of the LM6000 is expected to be completed by July, 2002. This represents only a one-month overlap with construction activities for the proposed MPP.

A brief description of the proposed LM6000 is included in the Data Adequacy Responses, Magnolia Power Project (URS 2001) (page AQ-31) submitted to the CEC on September 4, 2001. The analysis includes proposed sources located within the facility boundary as well as identified sources located within a six-mile radius from the proposed MPP.



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While not directly related to the installation of the LM 6000, as in the case of Magnolia 5, Magnolia Units 1 through 4 and Olive Units 3 and 4 will be decommissioned and will not be operated after 2004. This information was provided in the AFC.



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**BACKGROUND**

The Magnolia Power Project (MPP) is designed to maximize the use of reclaimed water for cooling. However, the amount of reclaimed water that can be used is constrained by limitations contained in the City of Burbank's (COB) current National Pollutant Discharge Elimination System (NPDES) discharge permit for its wastewater treatment plant. COB discharge permit is currently being revised and the Applicant expects that the revised discharge limits will allow for higher cycles of concentration and maximum use of reclaimed water as the source of cooling tower make-up.

**Data Request 3:** Please update the cooling tower design basis (i.e. cycles of concentration and total dissolved solids), PM<sub>10</sub> emissions, and water consumption to match final discharge limits agreed to in the revised COB discharge permit.

**Response:** The background discussion above states that the COB discharge permit is currently being revised. This statement is incorrect; the COB NPDES discharge permit is not being revised. The MPP will comply with the discharge limits that are outlined and summarized in the existing NPDES permit.

Previous cooling tower emissions were based on 1.3 cycles of concentration. The project now intends to increase the cycles of concentration to 5.6 and dilute the cooling tower blow-down in order to meet the COB NPDES discharge limits. The increase in cycles of concentration have been accounted for in the revised cooling tower PM<sub>10</sub> emissions and updated atmospheric dispersion modeling.

The PM<sub>10</sub> emissions from the cooling tower are based on an analysis of the concentration of the total dissolved solids (TDS) and a drift of 900 gallons per day (gpd) (drift rate of 0.0006%). The previous AFC analysis used the conservative assumption that all TDS in the cooling tower drift would end up as atmospheric particulate matter and all of this was assumed to be PM<sub>10</sub>. A study performed by Ecodyne Cooling



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Products (Wistrom and Ovard 1973) concluded that only 31.3% of the total drift mass would disperse into the atmosphere. This analysis is attached. Table 1 summarizes revised cooling tower emissions, which assumes the 31.3% of the TDS ends up as atmospheric particulate matter, all assumed as PM<sub>10</sub>.

Atmospheric dispersion modeling was performed to estimate 24-hour and annual PM<sub>10</sub> concentrations from the MPP using revised cooling tower emission estimates, including the turbine. Results from the modeling analysis are summarized in Table 2. As shown, PM<sub>10</sub> concentrations are well below PSD and SCAQMD significant impact levels.

**Table 1  
Cooling Tower Emission Rates**

Drift rate	900 gpd
Inlet water TDS	720.00 mg/L
Cycles of Concentration	5.6
Cooling Tower TDS	4032.0 mg/L
Correction Factor <sup>1</sup>	0.313
Emissions	0.0498 g/s
Emissions per cell	0.008294 g/s

<sup>1</sup> Ecodyne Cooling Products Division  
G.K. Wistrom and J.C. Ovard.

**Table 2  
PM10 Concentrations**

Maximum 24-hour Average	2.44	µg/m <sup>3</sup>
Annual Average	0.25	µg/m <sup>3</sup>



## **Attachment DR 3-1**

### **Ecodyne Cooling Products Analysis**



Ecodyne Cooling Products Divisi

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COOLING TOWER  
ITS MEASUREMENT, CONTROL AND ENVIRONMENTAL EFFECTS

by

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## ABSTRACT

Serious questions about cooling tower drift and its potential as an environmental pollutant must be answered if cooling towers are to continue to receive general acceptance as heat rejection equipment for large plant installations. Drift is especially important if brackish or salt water is considered as the cooling medium.

A simple and accurate method for the quantitative measurement of drift emitted from actual cooling tower installations has not previously been available. This paper describes the operation and calibration of a recently developed drift measurement system. This device is simple, direct and highly accurate and has been successfully used in the field. The results of several drift measurement field tests are presented for different drift eliminator designs.

The results of research to assess the significance of measured drift quantities and drift interaction with the environment are also presented. Included in this work is a drift dynamic analysis presenting the size and mass distribution of drift particles and studies of dispersion, deposition and evaporation rates of drift particles as a function of meteorological and tower operating parameters. The results of these studies are compared with recent field observations of salt water towers.

Presented at the Cooling Tower Institute Annual Meeting  
The Marriott Hotel, Houston Texas  
January 29-31, 1973



## INTRODUCTION

Serious questions about cooling tower drift and its potential as an environmental hazard must be answered if cooling towers are to continue to receive general acceptance as heat rejection equipment for large plant installations. Drift is potentially objectionable for several reasons. Until recently the most important concern was the deposition of water and its impurities on objects in the immediate vicinity of the tower. This can result in corrosion problems or failure of electrical equipment. It can also cause a public nuisance if drift rates are high, especially when a tower is located near a parking lot, high density traffic area or any area with extensive human activity. People are sensitive to even minute quantities of water or mist. With the advent of large salt or brackish water cooling towers, attention has focused on drift as a potential danger to local vegetation or as an air pollutant due to the high level of water impurities.

Cooling tower drift has been traditionally defined as mechanically entrained water droplets which are generated inside the cooling tower and carried along with the air flowing through the tower exhausted to the environment. Based on this definition one would expect these water particles to have essentially the same chemical composition as the circulating water in the cooling tower. Most drift loss guarantees are quoted as a percent of the circulating water rate with a tacit implication that the drift impurity level is the same as that of the water circulated. We differentiate between drift and the moisture added to the air due to the basic evaporative process in cooling tower since evaporated water is pure water vapor. Moisture is naturally present in the atmosphere and the evaporative water is not objectionable from the standpoint of adding an impurity to the environment. In the evaluation of drift and its potential environmental hazard, we are ultimately interested in the total quantity of drift droplets discharged to the environment, their chemical impurities, and the subsequent behavior of this drift as it interacts with the environment. This paper deals exclusively with the mechanically entrained water droplets or drift and its environmental impact. The evaporative moisture release and its potential for fogging or icing hazards is not evaluated here.

To assess the environmental significance of drift it is first necessary to establish the actual total drift emission rate



from towers of the type found in industry today. This required the development of a device specifically designed to quantitatively measure drift rates.

Second, the drift particle size and mass distribution must be determined before the dynamic thermodynamic behavior of the drift as it interacts with the environment can be evaluated.

With this information the significance of drift can be assessed in terms of its potential to create negative effects on the environment or plant equipment in the vicinity of the tower.

This paper will examine each of the aspects of the drift question and report the results of research and development work by Ecodyne in this vital area during the last two years.

#### Sampling Method Review

In developing a method for the accurate quantitative measurement of drift on industrial cooling towers in the field, it was first necessary to evaluate available methods and to assess their ability, accuracy and applicability to the measurement of cooling tower drift.

Several techniques are available for the measurement of small airborne water particles in the size range of those encountered in cooling tower drift. Most of these methods have evolved from meteorological investigations on clouds, fog and rain. The two major problems inherent in such determinations are: (a) Collection of a representative sample (b) The maintenance of the droplet size long enough for measurement.

The aerodynamic response of small droplets make their collection difficult without altering the size of the larger droplets. Further, the evaporation of small droplets can be so rapid that some methods must be developed to preserve the original size. Most of the techniques which are applicable to cooling tower drift measurement work use glass slides coated with a material which preserves the impression a water particle makes upon impact with the slide. The impression can be examined later under a microscope to determine their size. These techniques give accurate results if the relationship between the impression left on the slide coating is correlated with the impacting water particle size. Slide coatings of magnesium oxide, gelatin, vaseline, oils, and others have been used. Specially treated water sensitive paper have also been used but accuracy of this method is limited to the measurement of the



larger size droplets. More Sophisticated methods using photographic film coated with liquid plastic which encapsulates impinging droplets have proven accurate in cloud particle research work.

In addition to the impaction methods, other techniques have been developed where particle size is determined without disturbing the flow of air and water particles. The most successful device using this approach bases its particle measurement of diffraction rings or coronas produced when high intensity light is scattered while passing through water droplets entrained in air. This method has some limitations since difficulties are encountered when trying to measure particles with diameters smaller than 100 microns (1)\* because of the very small Rayleigh light scattering range. Further, diffraction ring interference can become a problem if more than one particle is in the discriminate light sampling volume at the time of measurement.

All of the above techniques, while having the advantage of discriminate measurement of particle size, have one serious limitation when applied to the field measurement of cooling tower drift to determine total emission rates. The exhaust velocity, temperature, relative humidity and drift particle size will vary both as a function of time and position. This phenomena is partly due to the inherent performance characteristics of a cooling tower, and partly due to normal changes in atmospheric and operating conditions. The tower plenum relative humidity can vary from a slightly unsaturated condition to a supersaturated condition. Droplet evaporation or condensation can significantly effect drift particle size at the emission point and the chemical composition of the droplets. Techniques that measure drop size only have no way of adequately accounting for the chemical composition of the drift droplets sampled. Unless a representative sample is physically collected and chemical analyzed, drop size salt concentration must be estimated. This can lead to a serious error in the calculation of drift emission rate.

The drift rate measurement system developed by Ecodyne overcomes this limitation. This device is simple, direct and highly accurate.

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\* Numbers in brackets designate references at the end of paper



## Drift Measurement System

The Ecodyne drift measurement system (Figure 1) is designed to physically extract a continuous isokinetic sample from the cooling tower exhaust air along with the entrained drift particles. The drift particles are separated from the exhaust air and collected for quantitative measurement and analysis at the conclusion of the test. This instrument is adaptable to any size mechanical draft cooling tower fan stack up to 35 feet in diameter. It can also be adapted to natural draft towers. The major functional components of the system include: 1) Cyclone Separator, 2) Isokinetic Sample System.

1) Cyclone Separator: The Particles entering the system's sample probe are separated from the exhaust air by centrifugal force. As the exhaust air-drift mixture is drawn through the system, the particles are forced to the separator walls causing them to flow downward to a collection jar located at the bottom of the cyclone. The Cyclone Separator is the key component in the drift measurement system. Its particle collection efficiency, as a function of the variations in air flow, temperature and drift quantities, will determine the overall drift measurement accuracy.

2) Isokinetic Sampling System: Isokinetic Sampling insures that the drift particles which enter the measurement system are truly representative of those entrained in the exhaust air at the sampling point. To achieve this condition, the velocity at the sample probe inlet must be maintained close to the natural velocity of the cooling tower exhaust air at the sample point to avoid particle discrimination. Further, the plane of the sample probe inlet must be positioned perpendicular to the direction of the local flow. Typically, both the magnitude and direction of air velocity vary as a function of position at the fan stack discharge. The adjustment to Isokinetic Sampling is achieved by rotating the mono-rail until the plane of the sample probe inlet is perpendicular to the indicated air flow direction. The velocity through the system is adjusted to the natural exhaust velocity at the sample point by varying the speed of the centrifugal blower until the total pressured measured at the blower discharge are in balance. The sample probe inlet area and the blower discharge are equal. Any imbalance is detected by the inclined manometer.

The drift test objective is to collect a drift sample which accurately represents the total average drift emitted from a cooling tower. This system offers a great deal of flexibility in this respect. The test method described here is only one of



the many possible procedures which can be used.

The area of the fan stack discharge is divided into five concentric equal area annuli. Drift samples are collected at the center radius of each of these annuli in all four quadrants yielding 20 samples which are averaged arithmetically. The sample probe is positioned at each center radius and the drift measurement system position and air flow rate is adjusted until isokinetic sampling conditions are achieved. A representative isokinetic sample flows through the drift measurement system for a predetermined time period; usually either 10 to 20 minutes per sample point. This is similar to the pilot tube traverse procedure used for water flow measurement. The total drift sample collected is measured and chemically analyzed to determine the dissolved solid content of the drift which is then compared to the dissolved solid content of the circulating water in the cooling tower system. With the total sample quantity, chemical composition, and sample time known, the weighted average drift emission rate can be evaluated and conveniently related to the flow rate and chemical composition of the water circulating the cooling tower system.

The prototype of the Ecodyne drift measurement system was assembled and calibrated by Meteorology Research, Inc. These tests were conducted in the MRI fog chamber to insure a saturated or nearsaturated test environment. Under these conditions a minimum degree of evaporation occurred prior to separation of the droplets from the air stream. In the evaluation, the cyclone was mounted on a frame which was placed inside the MRI fog chamber. A vacuum blower identical to the type used in the final system was attached to the outlet of the cyclone. Operating flow rates were variable; however, most of the tests were conducted at 100 CFM. The nozzle which produced the droplet spray was situated at the inlet to the cyclone with the spray directed inward. Water was metered into the nozzle while the cyclone was in operation and the quantity recovered was compared directly with the quantity injected through the nozzle.

A background correction factor had to be applied because the chamber's fog droplets were also collected by the cyclone separator. The following procedure was used to determine this correction factor.

In a typical test, the cyclone was operated for an initial period of 10-15 minutes without the test nozzle. After the quantity



of water extracted from the saturated fog in the tower was determined, a similar test was run with the spray nozzle on. A third test was run afterwards to check any change in the background correction. The background correction factor was about 10-12% of the total water collected. In the final preparation of the data, the background correction factor was subtracted from the total yield and this yield was compared with the total amount of water which flowed through the spray nozzle.

Prior to the tests, the spectrum of droplet sizes produced by the spray nozzle was determined by impaction samples taken on special water soluble films. Both coarse and fine spray were used in the system calibration. Only the fine spray results are presented here because they represent the most difficult problem from a cyclone collection efficiency standpoint.

The fine spray nozzle used in the calibration test produced a droplet spray with a number median diameter of 4.9 microns and a mass median diameter of 12.1 microns. The range of droplet size was 1.2 to 27.0 microns in diameter.

Eight tests were conducted with the fine spray at air flow rates of 92 to 101 CFM. The average mass recovered after correction for fog water in the test chamber was 98.1%.

A second set of tests were run with this spray to determine the change in mass collection efficiency at relative humidities below saturation. Results are summarized in table I. Over the indicated relative humidity range, a small change in the collection efficiency was noted.

Additional tests were conducted at different flow rates ranging from 35 CFM to 135 CFM. No significant change in the percent of water recovered could be detected. The data found in table II represents the average of several tests at each flow rate.

The system calibration tests verified that the cyclone method of sampling and recovering liquid water droplets, as used in the drift measurement system is very efficient. Over a range of sampling flow rates between 35 and 130 CFM, collection efficiencies were between 95.4 and 98.1%.

Sampling in relatively dry air did not appreciably affect the



yield. Of the water entering the sampling port 92.5% was recovered at relative humidities as low as 76.5%.

Relatively coarse water sprays, probably more typical of drift particles, were collected with efficiencies greater than 99%.

Fine droplet spray, with significant numbers of droplets less than 5 microns in diameter, were collected at efficiencies of greater than 98% in saturated air which simulated the exhaust from a cooling tower.

During the last eighteen months twenty two drifts test have been conducted on industrial towers using this system. The tests include towers equipped with both standard two pass drift eliminator configurations typical of the industry for the past twenty years and a new drift eliminator developed by Ecodyne (Figure 2). Test results show that drift rates for the standard two pass design varied from 0.02% to 0.12% with a typical value of 0.05%. The Hi V drift eliminator drift rates varied from 0.001% to 0.008% with a typical value of 0.004%.

Evaluation of the test results showed that drift rates can be correlated with air velocities. This is compatible with the earlier work of Chilton (2). A comparison of drift eliminator performance characteristics showed that the major reasons for the marked difference in drift emission rates are due to the installation of the drift eliminators rather than major differences in blade collection efficiencies. In the older designs high localized drift losses were noted at points where the drift eliminator sections must go around structural members. Positive seals must be provided at these points to avoid localized blowby. Further, the lack of positive drainage system as part of the overall design and installation results in localized water build up and large droplets are torn from the blade surfaces and reentrained in the air stream.

#### Particle Size and Mass Distribution Determination

Several of the measurement techniques used in cloud physics were evaluated to establish the most effective method for measuring cooling tower drift drop size. The impaction slide methods showed the most promise because they yield accurate results down the lower size limit of natural fog and the measurement technology, calibration and correlation has been well established by cloud physics investigators. These techniques are also easily adaptable to field measurement on cooling towers and a permanent record of drop size is obtain.



Of all the slide film coating evaluated, a liquid plastic coating called FORMVAR (3) gave the clearest and most distinct representation of the drift droplets. When a water droplet impacts the liquid FORMVAR coating, it is encapsulated and the plastic solvent evaporates leaving a hard plastic droplet replica. The water in the droplet eventually disappears by evaporation through the thin FORMVAR skin and the exact shape of the impacting droplet is preserved by the plastic film for future size analysis.

Figure 3 shows a photograph of a typical FORMVAR slide at 40X magnification which has been exposed to drift droplets. In the analysis of the FORMVAR slides, it became readily apparent that this technique had an upper drop size measurement limitation in the range of 200 to 300 microns. When drift droplets greater than this impinged on the FORMVAR coated slides the droplets tended to shatter making their size determination impossible. This shattering effect made it necessary to find another method for determining the size of the larger droplets. This led to the use of water sensitive paper where droplets are actually absorbed by the paper after impact. In selecting a water sensitive paper, the grain size of the paper itself must be compatible with the droplet size range to be measured. If it is too coarse, it will obscure the droplet impression. Sampling times and the techniques of exposing the paper were, as with glass slides, very critical in obtaining clear droplet impressions. Figure 4 shows a photograph of typical water sensitive paper slide.

The impression size of the droplets on both the glass slides and the sensitized paper must be corrected to actual droplet size to account for droplet deformation upon impact with the slides.

Figure 5 and Table III present the drift droplet size and mass distribution respectively at the stack discharge based on field test using these techniques. Note that these tests were run on towers where the total drift loss was measured as .001% of the circulating water rate and therefore, are representative of the current state of the art of drift eliminator designs.

Examination of these results reveals several important aspects of drift. First, it is noted that the exhaust drop size distribution is bimodal with peaks in the 35 micron and 200 micron size range respectively. In contrast, natural atmospheric aerosols exhibit a unimodal size distribution. This difference is not surprising when one considers that the air entrained drops in a cooling tower are both generated and removed by mechanical means within a few seconds. In contrast, large particles generated in natural aerosols



fall out rapidly leaving only small particles in the mature aerosol that are easily kept in suspension by even minor vertical turbulence or eddies which occur in the atmosphere.

Figure 5 also shows that a few drops in the 1000 to 2400 micron range are present in the exhaust air. Even a casual field observation shows that water droplets in this size range are emitted from cooling tower since they are clearly visible and easily detected. Field observations and drift drop size est are directly behind the drift eliminators show that in a tower with well designed drift eliminators, most of these large droplets are generated in the tower plenum area where impinging drift and vapor condensation accumulates on structural members. Some of this collected moisture is eventually reintrained as larger droplets.

The results presented here are considered typical for this drift eliminator design. As previously noted variations in the plenum environment and drift eliminator design will have a significant effect on the discharge drop size distribution. The older drift eliminator designs are characterized by the presence of more of the larger drops which appreciably increases the total drift loss. Proper attention to drainage and sealing can eliminate most of this.

#### Drift and the Environment

The dynamic behavior of the drift will be a function of the original droplet size, condensation or evaporation rates, aerodynamic and gravitational forces and meteorological conditions.

The terminal fall velocity of a drop established when the aerodynamic drag force is equal to the weight of the drop. Magono (4) and others have shown that larger drops are not spherical and in fact experience a marked flattening on their lower surface which materially affects fall velocity. The fall velocity-drop size relationship is shown in figure 6.

Droplets smaller than 100 microns have fall velocities which are extremely low indicating that weight of these small drops has a minor influence on their dynamic behavior. Thus, their path and position will be primarily governed by aerodynamic forces; most important of which are wind, buoyancy of the exhaust plume, and vertical eddies of turbulence in the atmosphere. Plume buoyancy and vertical atmospheric turbulence will tend to keep these small droplets in suspension for an extended period. The smaller droplet will essentially follow the plume path and their concentration at



any point downwind will be ultimately governed by atmospheric dispersion. If the atmospheric air is cold the exhaust air is rapidly cooled and becomes supersaturated. The small drift droplets that remain entrained in the exhaust vapor act as condensation nuclei and tend to grow in size as long as this supersaturated conditions remains. However, drift droplets affected by this phenomena typically represent less than 12% of the total drift mass and significant consideration will occur only during brief time periods when prolonged supersaturated plume conditions exists.

Large drop fall rapidly and most will hit the ground in the immediate vicinity of the tower. Clearly their dynamic behavior is governed by gravity and wind induced drag forces. These two factors are dominant and their trajectory is essentially independent of the exhaust air plume-path except for an initial, but brief, period.

Typically, the majority of the drift droplets are in an environment where partial or complete evaporation will occur. This evaporation must be accounted for if accurate drop trajectories are to be established. Frossling (5) derived a semi-empirical relationship for the very complex problem of evaporation of a falling droplet. The formula is:

$$\frac{dm}{dt} = \frac{-4 \pi D M (P_0 - P_{\infty})}{RT} \quad a \quad \left( 1 + \frac{0.276}{\sqrt[3]{6}} \sqrt{R_e} \right)$$

Where:

- dm = Differential mass evaporation
- dt = Differential time
- D = The diffusion constant of vapor
- M = The molecular weight of water
- P<sub>0</sub> = Vapor pressure of the drop surface
- P<sub>∞</sub> = Vapor pressure in the main body of air surrounding the drop
- R = The gas constant
- T = The absolute temperature of the drop
- a = The radius of the drop
- 6 = D/V, where V is the kinematic viscosity of air
- R<sub>e</sub> = The Reynolds number

The difference between the droplet surface vapor pressure and the environment vapor pressure provides the driving force of the evaporation process. Both the salt concentration and radius of curvature will effect droplet surface vapor pressures. Fletcher (6) developed an equation that relates the change in droplet vapor



pressure to changes in radius of curvature. A formula was also developed that established the droplet saturation vapor pressure as a function of salinity levels. The equation is applicable for concentrations up to the solubility level salt in water. This is important because as droplets change from their original size owing to evaporation, their salt concentration level increases and consequently the evaporation rate diminishes. Once the droplet salt level reaches the solubility level, further evaporation causes salt crystal formation within the drop.

A computer program was developed to evaluate the trajectory history of drift droplets. The program calculates the change in drop size and position with respect to time on an incremental basis. The original drop size, tower operating parameters, atmospheric conditions, fall velocity, and the effects of drop curvature and salinity on evaporation rates are included. This program calculates the dynamic path of droplets until they either hit the ground or evaporate to a diameter of 100 microns or less. The behavior of droplets below 100 microns is treated using the Pasquill-Gifford dispersion equation. This does not preclude the eventual deposition of these small droplets. It simply allows us to evaluate the airborne concentration levels in terms of known natural phenomena. In the dispersion analysis for salt water applications we add the airborne drift concentration level to the concentration level of naturally occurring sea salt nuclei to determine whether the combined effect will create damage to plant life. The application of this program to evaluate the environmental impact of the salt water cooling tower will suffice to illustrate the true significance of drift and its relationship to the environment.

An eight cell crossflow tower designed to cool 134,000 GPM of salt water with the same chemical composition and salinity level as the sea was chosen for this example. The plant location is assumed to be two miles from the ocean on an estuary or bay. The drift rate is 0.004% of the circulating water rate and the drift mass size distribution of Table III is used in this example. We established the atmospheric conditions as 63° F dry bulb temperature and 50% relative humidity with stable atmospheric conditions and an onshore wind of 20 miles per hour at the plant location.

Figure 7 illustrates the drift dynamic behavior for this example. The results show that 68.7% of the drift mass hits the ground in the first 400 feet. Note that roughly half of this total mass falls out in the first 150 feet. Drift originally smaller than 100 microns in diameter represents 12% of the total mass and for the atmospheric condition chosen, droplets originally smaller than 450 microns evaporate to a diameter of 100 microns or less before hitting the ground. Thus 31.3% for the total drift mass remains in suspension and its subsequent behavior is evaluated



using the atmospheric dispersion model. The dashed lines of figure 7 show the trajectory history when the atmospheric conditions are change to 30° F dry bulb temperature and 80% relative humidity. Note that for this typical winter condition the droplets fall slightly closer to the tower since the evaporation rate is diminished. Further, there is a slight change in the total airborne drift quantity since the 450 micron droplets now hit the ground. A parametric analysis where relative humidity, atmospheric and exit air temperatures, and salinity levels were varied revealed that the dynamic behavior of drift droplets in the 400 to 700 micron size range are the most sensitive to changes in these variables. This example shows however, that those drift droplets that hit the ground will do so in the first 500 feet for a 20 mph wind. Evaluation of other conditions including weather extremes show that even under the most adverse conditions all drift droplets that will reach the ground will do so in the first 1000 feet.

We must now establish the relative significance of the airborne drift in terms of the environment. Natural airborne salt nuclei are generated by the bursting of air bubbles on the surface of the sea. This is caused by the wind, waves, and surf action. Meteorologists have been actively interested in these sea salt nuclei and their role in droplet formation in clouds and precipitation for many years. Woodcock (7) and others have shown that wind speed, direction, and the distance from the shore line will determine the natural sea salt nuclei concentration levels. Typical values are shown in Figure 8. Note that the airborne sea salt concentrations two miles from the shoreline vary anywhere from  $9\mu\text{g}/\text{m}^3$  to over  $150\mu\text{g}/\text{m}^3$  for normal wind speed variations. Obviously local plant life in the area must be capable of withstanding these natural airborne salt levels if they are to survive. A recent comprehensive environmental report (8) established an important correlation between salt levels and injury to vegetation. Based on field observations they were able to show that exposure of local vegetation to airborne salt concentrations above  $100\mu\text{g}/\text{m}^3$  for several hours would result in some foliar injury. There was no visible damage for concentration levels below  $60\mu\text{g}/\text{m}^3$ . This information suggests that a conservative plant damage threshold level can be established at  $60\mu\text{g}/\text{m}^3$ . For the example chosen, the background natural airborne sea salt concentration is  $47\mu\text{g}/\text{m}^3$  (Figure 8) and application of the dispersion model shows that the total of the airborne drift plus background concentration will reach  $60\mu\text{g}/\text{m}^3$  at a position approximately 2200 feet downwind from the tower. Therefore no plant damage is anticipated beyond this distance. Note also that the drift related increase is  $13\mu\text{g}/\text{m}^3$  at this position. Figure 8 shows that at  $13\mu\text{g}/\text{m}^3$  change the airborne salt level is approximately



equivalent to a 3 mph change in average wind speed. Thus the fractional increase in airborne salt concentration due to drift is insignificant when compared to normal variation caused by changes in atmospheric wind conditions.

In summary, it can be generally concluded that cooling tower drift effects on the environment are localized and that beyond some reasonable distance that is usually within the plant site boundary, drift does not significantly effect the environment. All field experience during the last 20 years where salt or brackish water has been used in cooling towers support this general conclusion.

### SUMMARY

This paper has described the operation and calibration of a field orientated drift measurement system designed to physically extract a drift sample isokinetically. An important feature of the system is that the sample collected can be directly related to the concentration of the total dissolved solids in the circulating water, thus overcoming the limitations of the methods available for measuring drift. The key component of the drift measurement system, the cyclone separator, was shown to have a collection efficiency of greater than 98% for the drop size encountered in drift. The overall system then is simple, direct and highly accurate. The results of 22 drift tests showed that a drift rate of 0.05% is typical for drift eliminator designs used in the industry for the last 20 years. The test results also showed that a new generation drift eliminator where positive drainage and sealing are part of the design result in typical drift rate of 0.004% of the circulating water rate.

The particle sizes and mass distribution presented in Figure 5 Table III were based on field tests where tower's drift rate was 0.001%. This work showed that the exhaust droplet size range from 22 microns to 2400 microns in diameter. Further study revealed that the majority of the larger drops are created by drift and moisture collecting on structural members in the tower's plenum and their eventual re-entrainment in the exhaust air stream.

The important factors that influence the dynamic behavior of drift were described. An example was given that typified this behavior and it was shown that approximately 70% of the drift mass



would hit the ground in the first 500 feet downwind from the tower. Also, remaining 30% of the drift would stay in suspension and its behavior was evaluated using the atmospheric dispersion model.

The Assessment of the environmental effects caused by drift from salt water cooling tower was made and it was concluded that beyond some reasonable distance, usually within the plant site boundary, drift does not effect the environment.



Technical Paper: Control Of Cooling Tower Mist  
R.H. Maurer, Celanese Chemical Co.  
Cooling Tower Institute

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TABLE I

LIQUID WATER RECOVERED AT REDUCED HUMIDITIES

<u>TEST NUMBER</u>	<u>RELATIVE HUMIDITY</u>	<u>PERCENT MASS RECOVERED</u>
I	99.4 %	97.4 %
II	93.2 %	95.3 %
III	84.1 %	93.3 %
VI	76.5 %	92.5 %

TABLE II

LIQUID WATER RECOVERED AT DIFFERENT FLOW RATES

<u>FLOW RATE</u>	<u>PERCENT MASS RECOVERED</u>
35 CFM	97.4 %
70 CFM	95.4 %
100 CFM	98.1 %
130 CFM	96.6 %



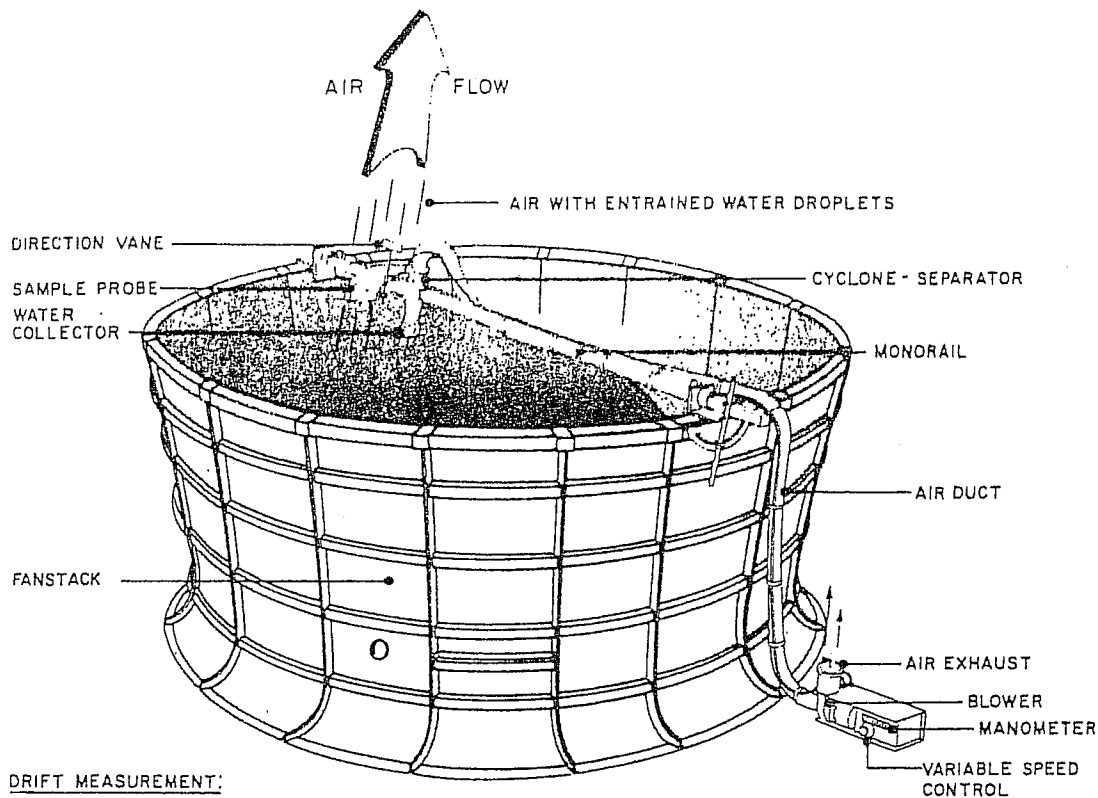
TABLE III

SIZE AND MASS DISTRIBUTION OF DRIFT PARTICLES  
(HI-V DRIFT ELIMINATORS)

<u>DROPLET DIAMETER (MICRON)</u>	<u>% OF SAMPLE BY NUMBER</u>	<u>% MASS BY DROPLET SIZE</u>
22	24.0	0.43
29	36.0	1.49
44	26.0	3.76
58	6.3	2.09
65	4.0	1.86
87	1.4	1.56 → 11.2 %
108	0.67	1.43
120	0.43	1.26 → 13.9 %
132	0.28	1.09
144	0.26	1.32
174	0.65	5.81
300	0.11	5.04
450	0.027	4.17 → 31.3 %
600	0.011	4.01
750	0.0055	4.00
900	0.0033	4.03
1050	0.0024	4.57
1200	0.0019	5.46
1350	0.0016	6.80
2250	0.00095	17.99
2400	0.0010	21.83

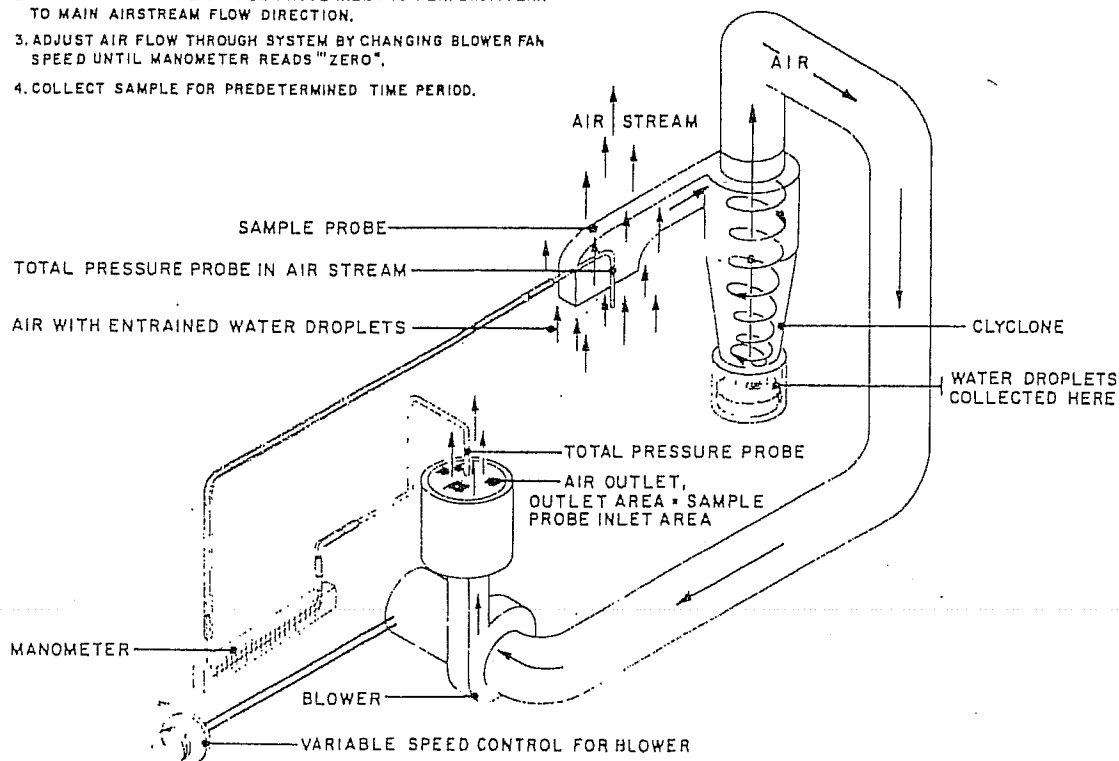


# FIGURE 1



## DRIFT MEASUREMENT:

1. LOCATE CYCLONE / SAMPLE PROBE AT POINT TO BE MEASURED.
2. TILT CYCLONE UNTIL SAMPLE PROBE INLET IS PERPENDICULAR TO MAIN AIRSTREAM FLOW DIRECTION.
3. ADJUST AIR FLOW THROUGH SYSTEM BY CHANGING BLOWER FAN SPEED UNTIL MANOMETER READS "ZERO".
4. COLLECT SAMPLE FOR PREDETERMINED TIME PERIOD.

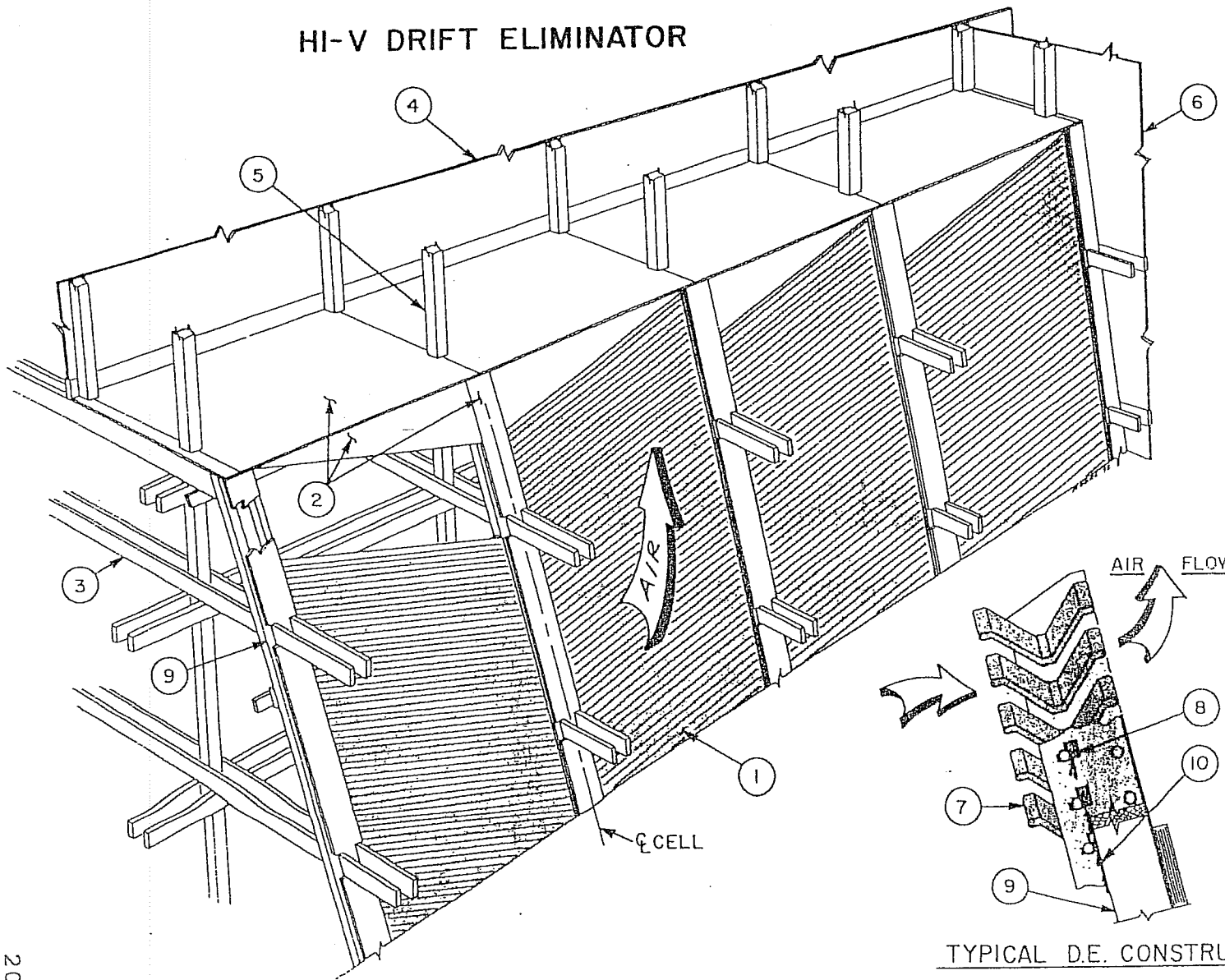


## DRIFT MEASUREMENT SCHEMATIC DIAGRAM



# FIGURE 2

## HI-V DRIFT ELIMINATOR



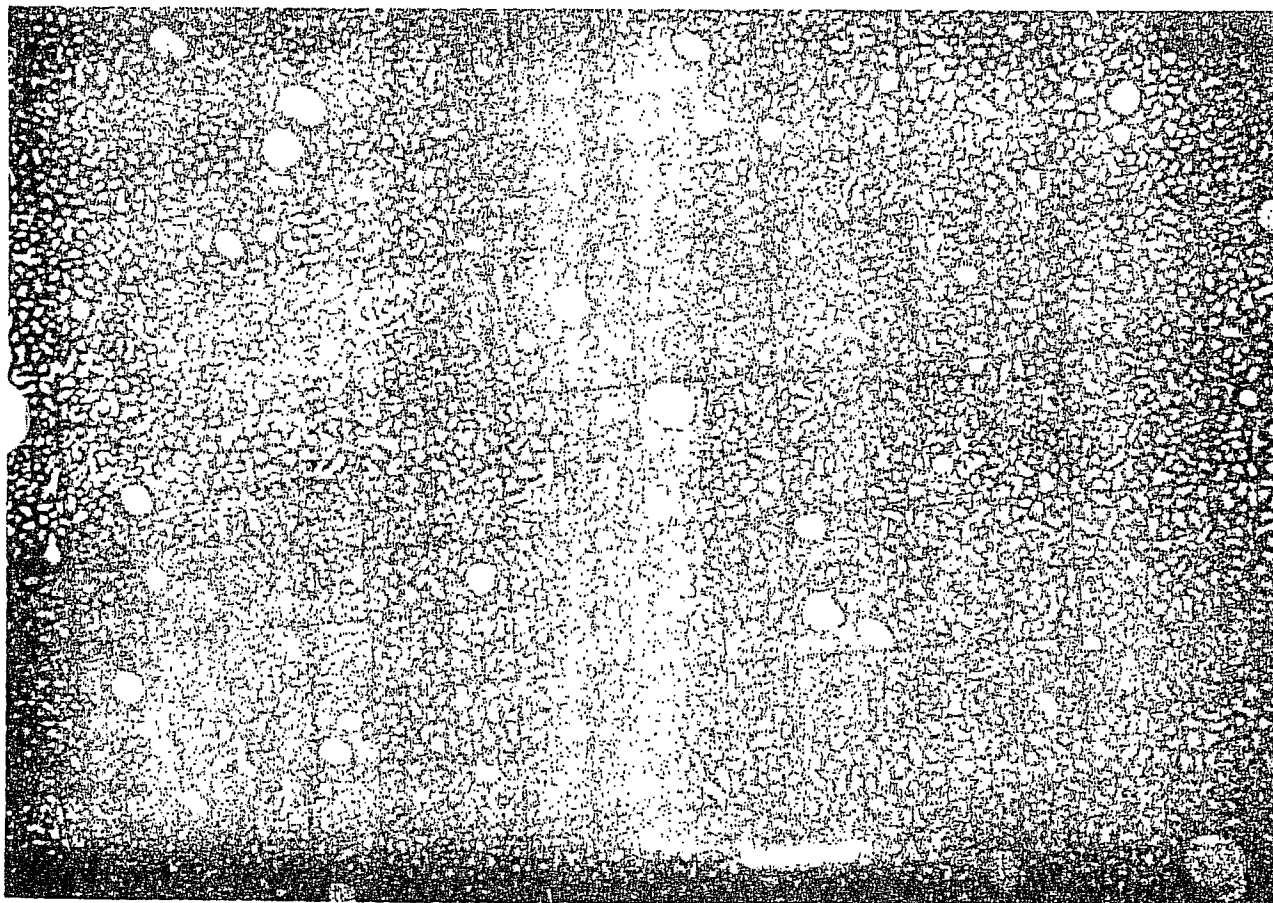
- 1 "HI-V" P.V.C. DRIFT ELIMINATORS.
2. PLYWOOD D.E. AIR SEAL.
- 3 STRUCTURAL TIE.
- 4 C.A.B. AIR SEAL.
- 5 STRUCTURAL COLUMN.
- 6 TRANSVERSE PARTITION.
- 7 D.E. BLADE.
8. DRAIN SLOTS.
9. 2x3 D.E. SUPPORT.
10. RIVULET OF WATER DROPLETS EXTRACTED FROM AIRSTREAM FOLLOWS 2x3 D.E. SUPPORT TO COLD WATER BASIN.

TYPICAL D.E. CONSTRUCTION



FIGURE 3

FORMVAR COATED GLASS SLIDE

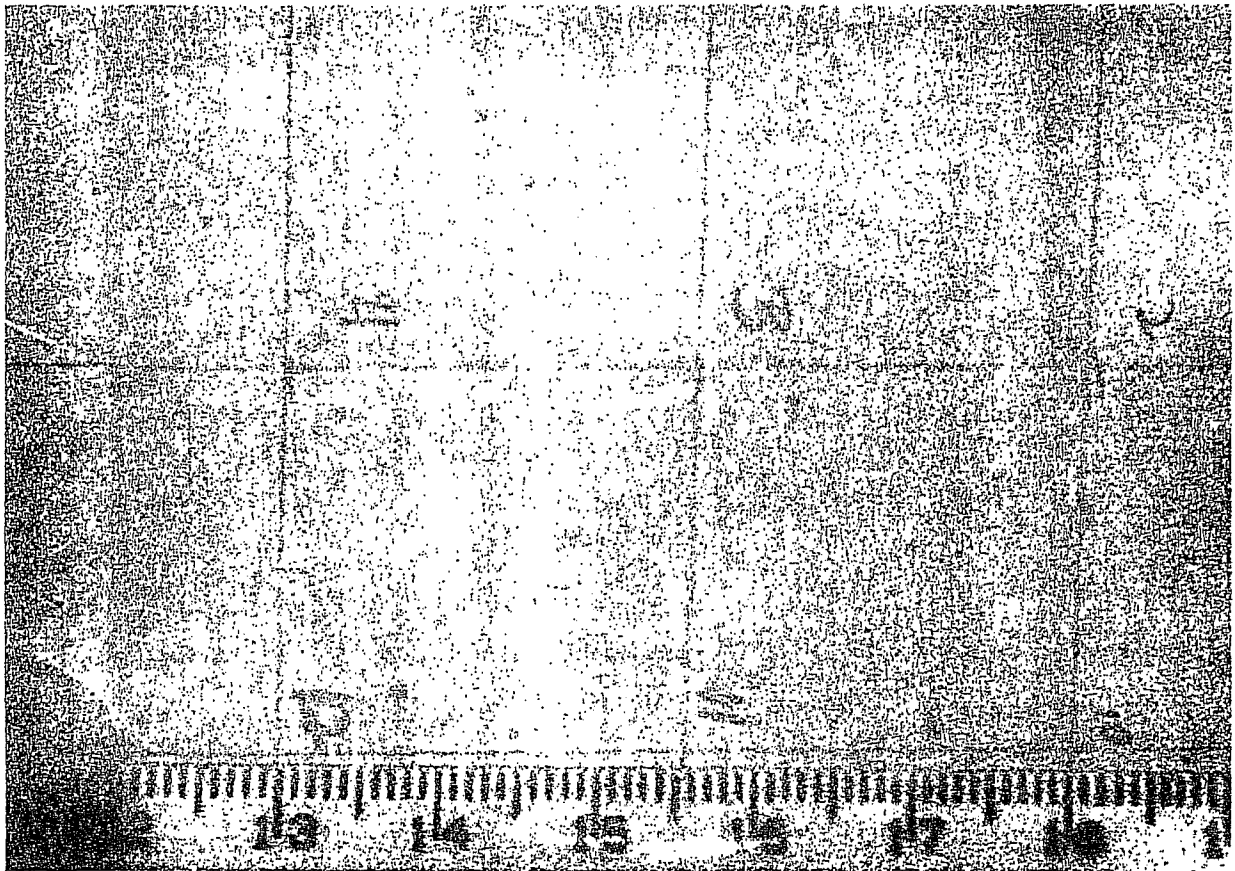


MAJOR GRID IS APPROXIMATELY 145 MICRONS ON A SIDE.  
MAGNIFICATION IS 40 x.



FIGURE 4

WATER SENSITIVE PAPER SLIDE



GRID IS APPROXIMATELY 2 1/2 CENTIMETERS ON A SIDE



FIGURE 5

PERCENT BY NUMBER VS  
DROPLET SIZE.

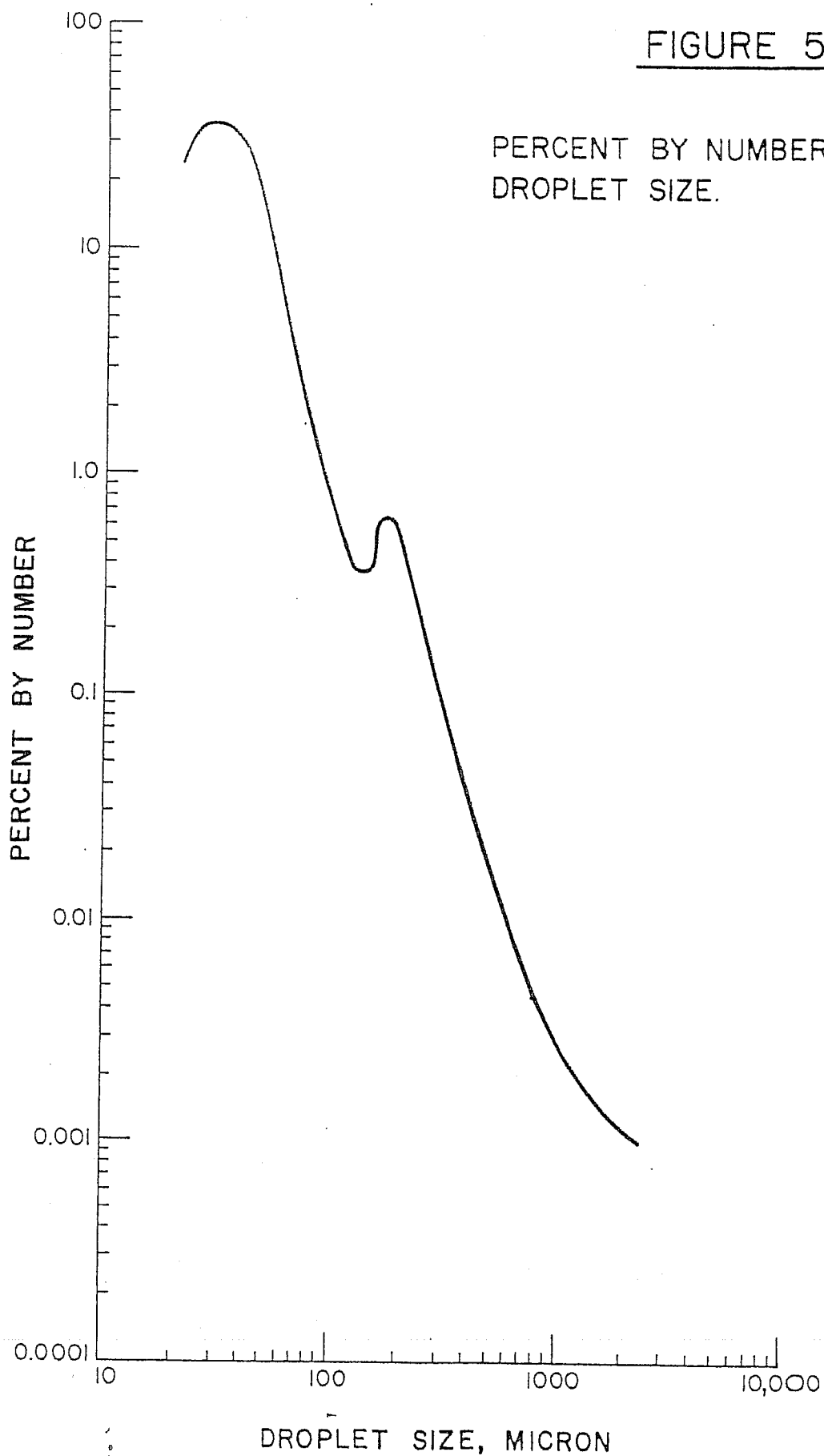




FIGURE 6

FALL VELOCITY OF WATER DROPS  
AS FUNCTION OF SIZE

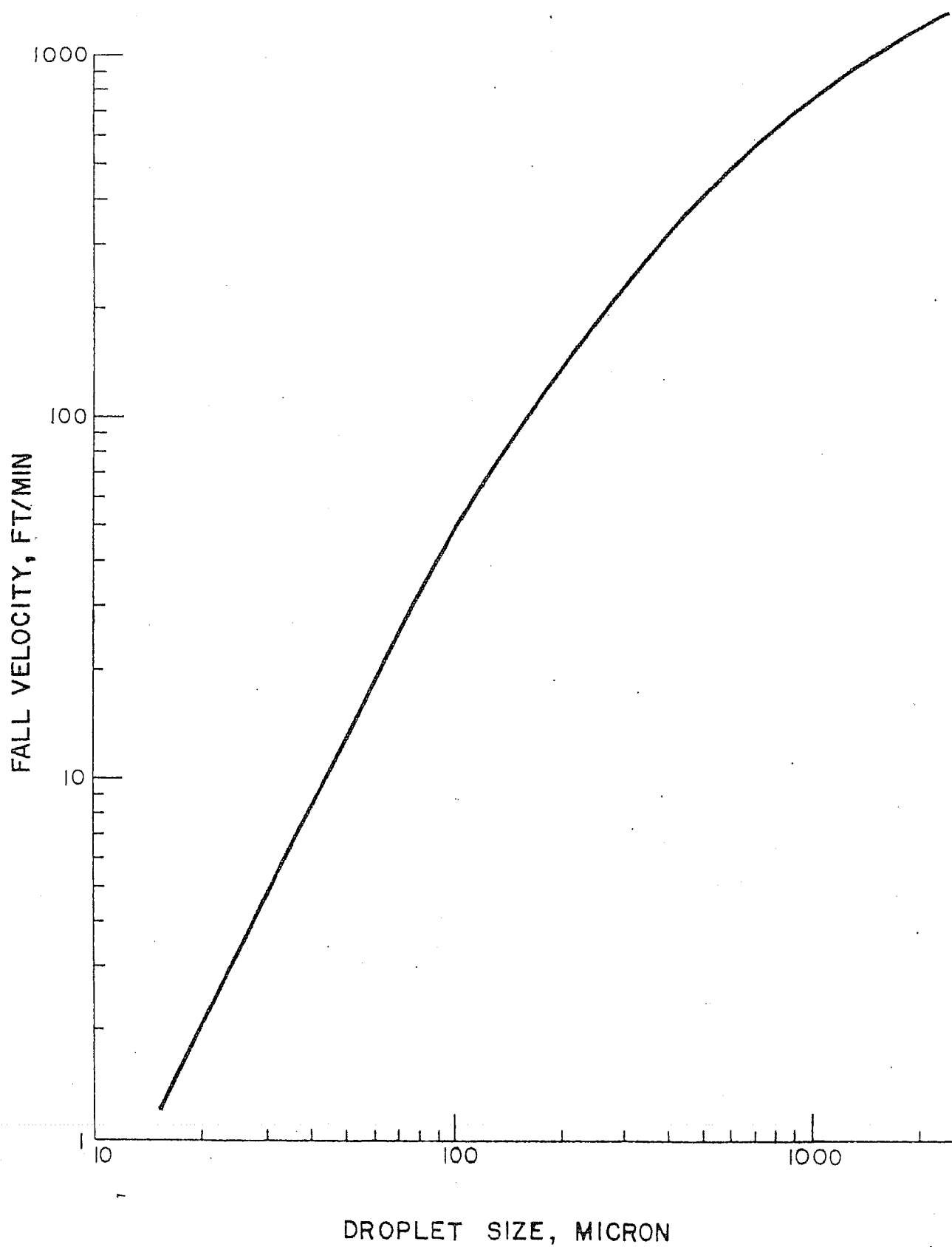




FIGURE 7

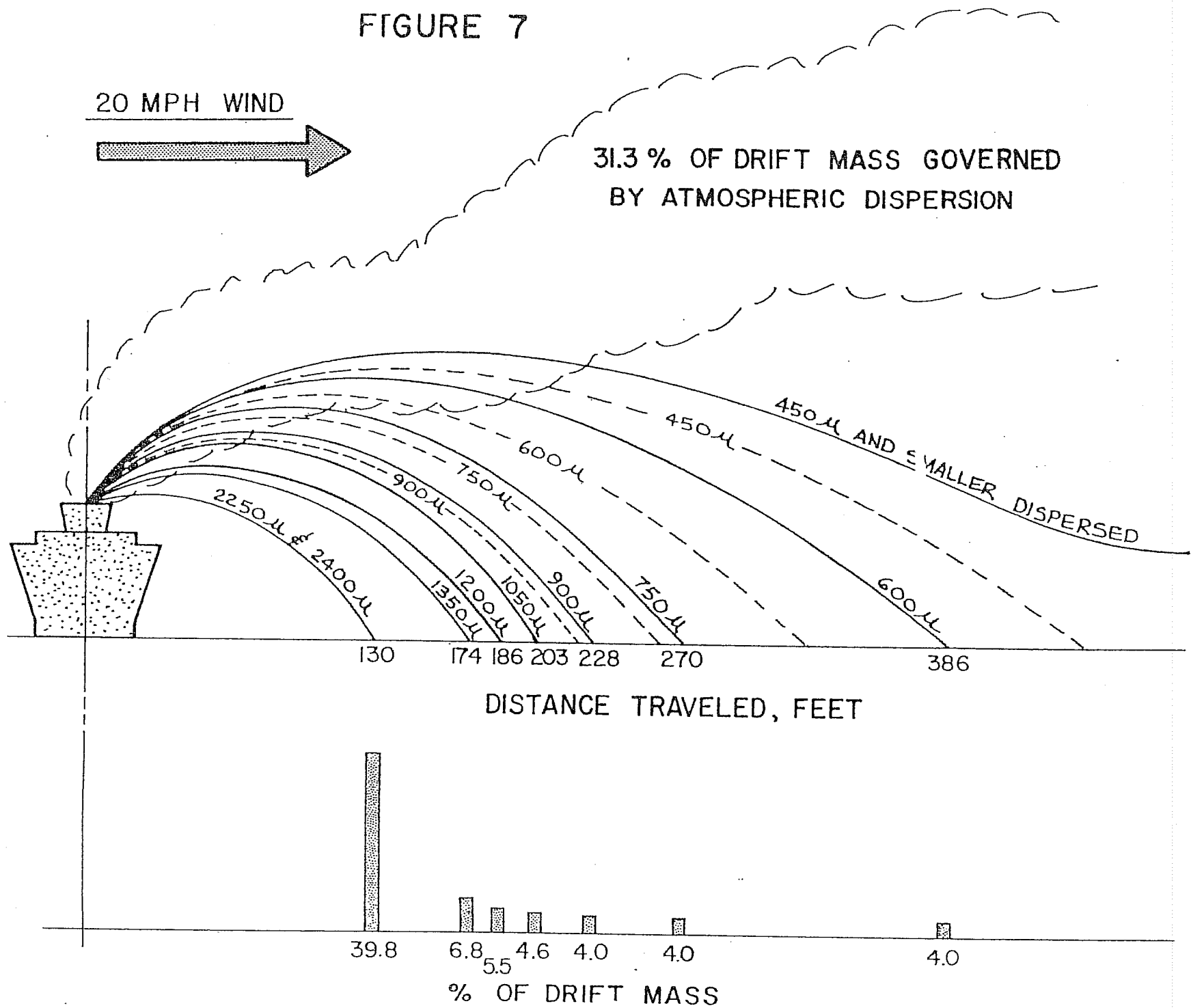
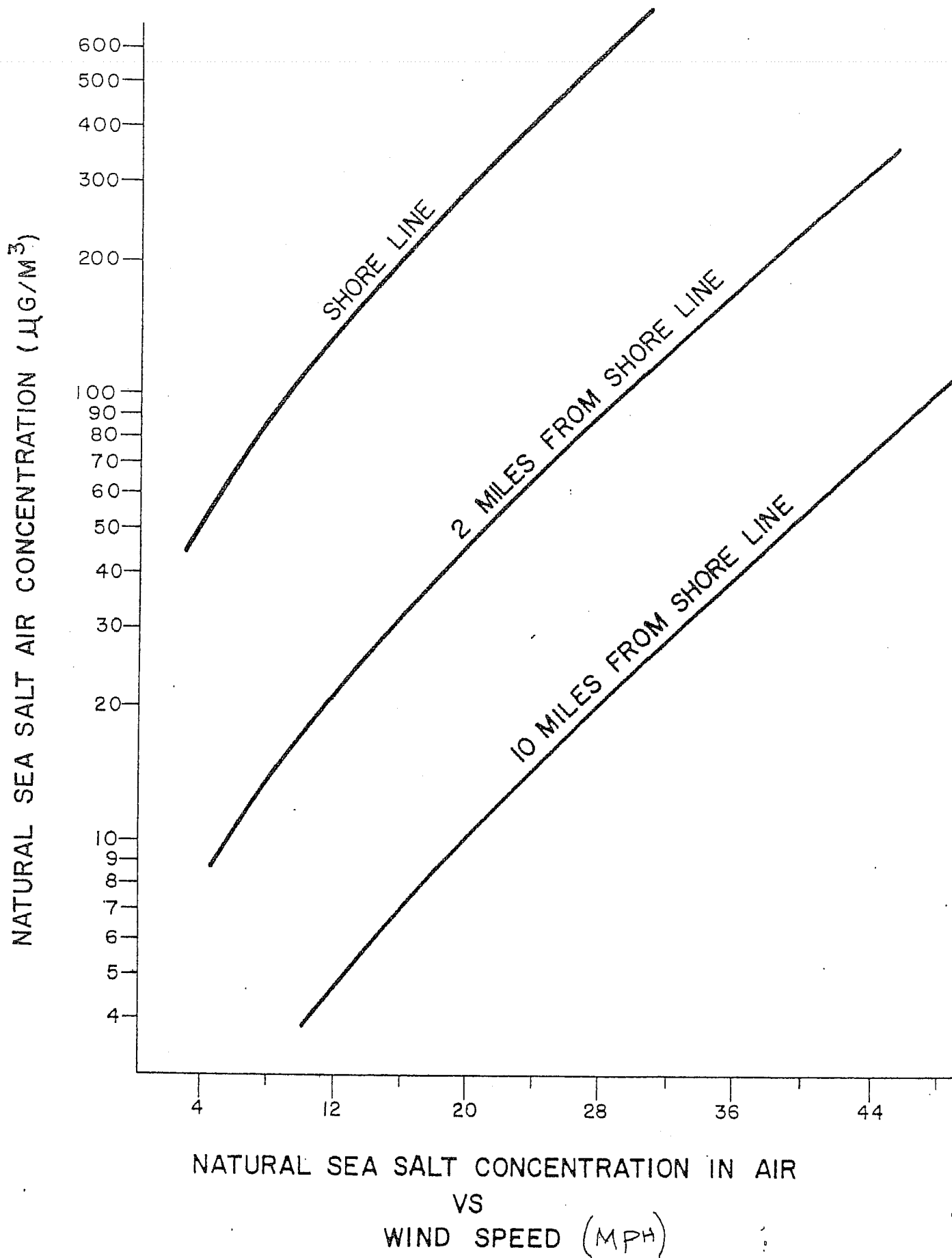




FIGURE 8





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**Technical Area: Air Quality**

**BACKGROUND**

In the AFC, the 1-hour NO<sub>2</sub>, 8-hour CO, and PM<sub>10</sub> impacts from construction appear to be potentially significant (Table H.3-4, pg. H-77). The state 24-hour and annual PM<sub>10</sub> standards, the national annual PM<sub>10</sub> standard, and the 8-hour CO standards are being exceeded in the absence of construction emissions from the MPP. Additionally, there appears to be errors in the construction emissions calculations. Staff needs clarification of the construction emissions and modeling assumptions and additional modeling impact analysis to be able to assess the Applicant's analysis.

**Data Request 4:** The construction emissions modeling has incorporated hourly emission factors (i.e. temporal factors). Please describe the assumptions and calculations used to incorporate these hourly adjustments.

**Response:** The hourly emission calculations include estimated equipment usage factors provided by the Applicant's engineer. These factors are estimated in terms of average percentage of actual usage time for each type of construction equipment. These usage factors assume that it is unlikely that the equipment at the construction site will be operated 100 percent of an hour. The usage factors are summarized on page H-82 of the AFC Appendices.



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**Technical Area: Air Quality**

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**Data Request 5:** The diesel equipment SO<sub>2</sub> emissions (Appendix H.3.1, pg. H-81) appear to be based on 0.25% (2500 ppm) sulfur (AP-42). This sulfur content is five times the California Motor Vehicle Diesel Standard. Please correct the emissions calculations and modeling results to reflect the use of 0.05% (500 ppm) sulfur diesel.

**Response:** In Appendix H.3.1, page H-81, footnote 2 references AP-42 for all emission factors. This reference is in error as all emission factors are based on SCAQMD's 1993 CEQA Air Quality Handbook (CEQA handbook), Tables A9-8-A and A9-8-B. None of the emission factors represented in the table are from AP-42.

Although "AP-42 Report" is mentioned at the base of the CEQA handbook, Table A9-8-A, it is noted that Title 13, California Code of Regulations, Section 2281 (a)(1) was effective at the time of the November, 1993 CEQA handbook update, and set a regulatory standard of 500 ppm by weight for diesel fuel sulfur. Therefore, although mislabeled in the original tabular emission factor table for the MPP construction phase, it appears the fuel sulfur standard of 500 ppm was included in these emission estimates. Therefore, no re-estimates of sulfur emissions nor re-modeling based on fuel sulfur content changes have been provided. No violations of SO<sub>2</sub> air quality standards were shown with the current modeling.



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**Technical Area: Air Quality**

**BACKGROUND**

In the AFC, the 1-hour NO<sub>2</sub>, 8-hour CO, and PM<sub>10</sub> impacts from construction appear to be potentially significant (Table H.3-4, pg. H-77). The state 24-hour and annual PM<sub>10</sub> standards, the national annual PM<sub>10</sub> standard, and the 8-hour CO standards are being exceeded in the absence of construction emissions from the MPP. Additionally, there appears to be errors in the construction emissions calculations. Staff needs clarification of the construction emissions and modeling assumptions and additional modeling impact analysis to be able to assess the Applicant's analysis.

**Data Request 6:** The modeled exhaust velocity (40 m/s) and exhaust temperature (644 K or 700°F) for construction vehicles appears to be higher than can be reasonably expected. Please provide documentation to confirm these values.

**Response:** Documentation to support the use of 644°K (700°F) for exhaust temperature and 40 m/s for exhaust velocity from diesel-powered construction equipment is presented in the attached information. The following discussion supplements these attachments.

Appendix H.3.1, page H-81, of the AFC shows that the majority of diesel-powered engines associated with construction of the project ranges from 25 to 450 hp. Catalog cuts for five Caterpillar engines ranging from 42.5 to 435 hp, obtained from the Caterpillar Inc. website ([www.cat.com](http://www.cat.com)) are provided (Attachment DR 6-1). These engine descriptions do not contain exhaust temperature, but present enough information to calculate exhaust velocities based on assumed exhaust temperature and tailpipe diameters. To obtain initial estimates for these parameters, information presented in the California Air Resources Board (CARB) document, Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines (October 2000) (Attachment DR 6-2) was used. This document is also attached. For the purposes of assessing impacts from stationary diesel-fueled engines, this document uses an exhaust temperature of 622°K (660°F),



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slightly lower than the 644°K (700°F) used in the construction exhaust modeling for the MPP. Using this slightly lower exhaust temperature and the recommended exit diameters, Table 1 in the Risk Management Guidelines shows calculated exhaust velocities for each Caterpillar engine at maximum rated rpm's and lower rpm's associated with peak torque. The following equations were used:

$$\text{Flow (Q, acfm)} = \text{Displacement (in}^3) \times \text{rpm (min}^{-1}) \times (\text{ft}^3/1,728 \text{ in}^3) \times [(\text{460} + \text{T})/(\text{520})]$$

where T = exhaust temperature (°F) and standard temperature of 60°F assumed

$$\text{Exit Velocity (m/s)} = \text{Q (m}^3/\text{s)} / [(\pi \times \text{d}^2)/4]$$

where d = exit diameter, converted to meters (1 inch = 0.0254 m)

**Example Calculation** (3014NA Model Engine, peak torque rpm):

$$\begin{aligned} \text{Q} &= 116 \text{ in}^3 \times 2200 \text{ min}^{-1} \times (1/1,728) \times [(460 + 660)/520] \\ &= 318.1 \text{ acfm} \\ &= 0.15012 \text{ m}^3/\text{s} \end{aligned}$$

$$\text{V} = [0.15012 \text{ m}^3/\text{s}] / [(\pi \times (0.0508\text{m})^2)/4] = \boxed{74.07 \text{ m/s}}$$

Over the range of Caterpillar engines, the calculated exit velocities ranged from 44 m/s to 74 m/s for low rpm (peak torque) operations, to 75 m/s to 94 m/s for operations at rated rpm's, based on an exhaust temperature of 660°F. For the purposes of calculating dispersion from all construction equipment, it is concluded that the use of 40 m/s and 700°F is conservative when applied to all emissions. As a final comment, it is believed that the CARB's use of 660°F for the characterization of diesel exhaust from stationary engines is likely low. In another CARB document, Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (October 2000) (Attachment DR 6-3), emission parameters for several types of engines were provided. A table from this document



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is also attached. For “prime engines” (examples include compressors, cranes, generators, pumps, grinders, and screening units) the exhaust temperature for a 420-hp engine is given as 739°K (870°F). This exhaust temperature is consistent with exhaust temperatures found on the Caterpillar website for larger diesel-fired generator units. Therefore, it is believed that typical exhaust temperatures from diesel-fired construction equipment should actually exceed 700°F, which would increase the exit velocities calculated in Table 1.

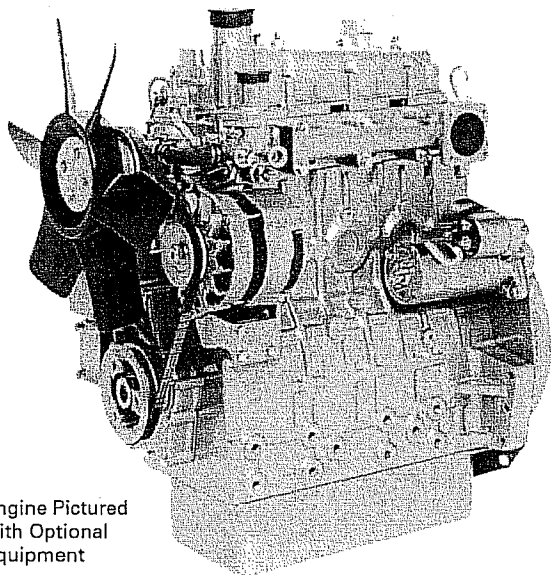


## **Attachment DR 6-1**

### **Caterpillar Equipment Information**



# CATERPILLAR®



Engine Pictured  
with Optional  
Equipment

## BENEFITS

### ■ FUEL ECONOMY

Consistent performance and excellent fuel economy over entire operating range.

### ■ BROAD APPLICATION RANGE

Big displacement, more performance for your money, and convenient installation.

### ■ RELIABILITY AND DIESEL DURABILITY

Diesel tough components and conservative speed for smooth operation and long engine life.

### ■ HIGH PERFORMANCE

Horsepower and torque capabilities optimized. Substantial 10 percent torque rise.

### ■ CLEAN AND QUIET POWER

Cleaner and quieter, free from visible smoke throughout operational speed range.

### ■ EASY LOW-COST MAINTENANCE

Convenient positioning of service points on right-hand side for easy accessibility.

# Industrial Diesel Engine 3014 NA

42.5 bhp/31.7 bkW  
2800 rpm

## CATERPILLAR® ENGINE SPECIFICATIONS

In-Line 4 Cylinder, Four-Stroke-Cycle Diesel

Bore — in (mm) ..... 3.31 (84)

Stroke — in (mm)..... 3.54 (90)

Displacement — cu in (liter) ..... 116 (1.9)

Combustion System..... Indirect injection

Rotation (from flywheel end) .. Counterclockwise

Capacity for Liquids — U.S. gal (L)

Cooling System (engine only) ..... 0.9 (3.4)

Lube Oil System (refill) typical .. 1.2-1.6 (4.5-6.1)

Weight, Net Dry (approximate)\* —

lb (kg) ..... 397 (180)

Rated Engine Speed, Full Load ..... 2800

\* With standard equipment

## STANDARD EQUIPMENT

Backplate

Flatface flywheel

Starter motor, 12 volt, 2.0 kW

Lube oil sump, side and bottom drain

Lube oil filler, top cover

Lube oil filter, spin-on type

Dipstick, short type

Front-end drive pulley with PTO fixing holes

Coolant pump

Puller fan 380 mm diameter

Alternator, 12 volt, 55 amp

Induction manifold, top inlet

Exhaust manifold, side outlet

Fuel filter, spin-on type

Fuel lift pump, mechanical

Glow plug starting aids

Electrical shut-off solenoid, energized to run

Lube oil pressure switch

Coolant temperature switch

Provision for 3rd PTO

## OPTIONAL EQUIPMENT

Workshop manual

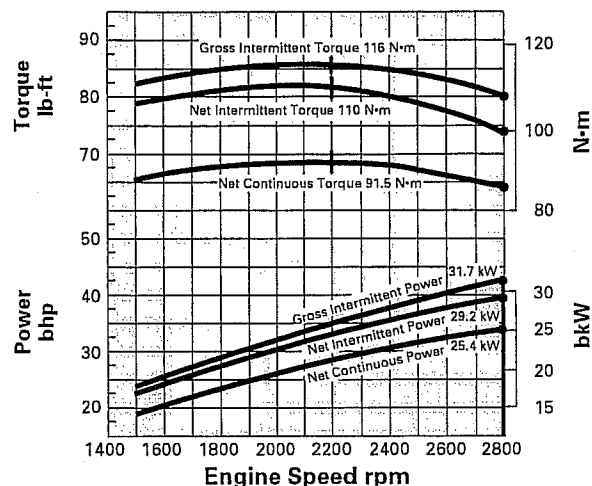
Parts book





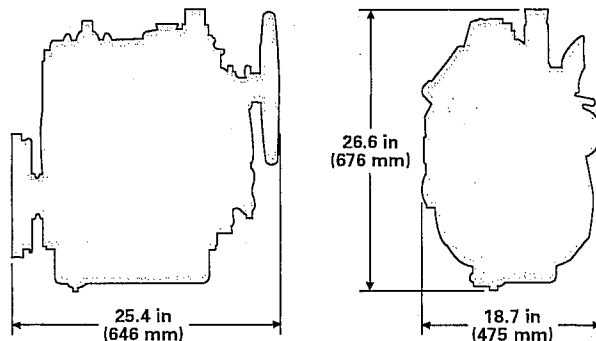
## PERFORMANCE DATA

Naturally Aspirated



Gross Intermittent Power = SAE J1995  
 Net Intermittent Power = DIN 6271  
 Net Continuous Power = DIN 6271

## DIMENSIONS



## RATING DEFINITIONS AND CONDITIONS

**Intermittent** is the horsepower and speed capability of the engine which can be used for about one hour, followed by an hour of operation at or below the continuous rating.

**Continuous** is the horsepower and speed capability of the engine which can be used without interruption or load cycling. Additional ratings are available for specific customer requirements.

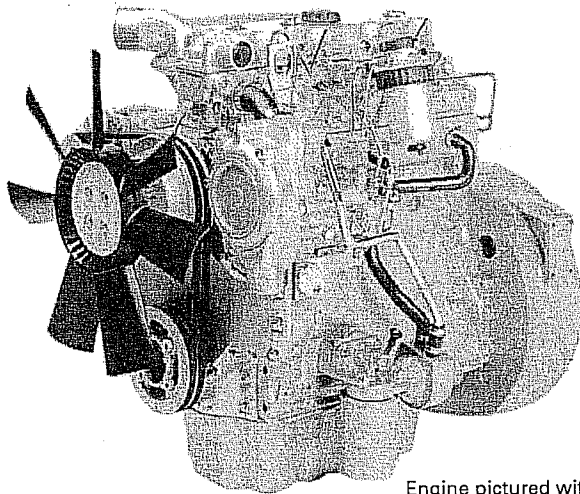
Additional ratings are available for specific customer requirements. Consult your Caterpillar dealer.

**Ratings** are based on SAE J1995 standard conditions of 29.61 in Hg (100 kPa) and 77° F (25° C). These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions of 29.61 in Hg (100 kPa), 81° F (27° C), and 30% relative humidity.

**Fuel consumption** is based on fuel oil having an LHV of 18 390 Btu/lb (42 780 kJ/kg) and weighing 7.001 lb/U.S. gal (838.9 g/liter). Power ratings are based on engine equipped with fuel, lube oil, and jacket water pumps but without fan.



# CATERPILLAR®



Engine pictured with  
Optional Equipment



## BENEFITS

### ■ FUEL ECONOMY

Consistent performance and excellent fuel economy over entire operating range.

### ■ BROAD APPLICATION RANGE

Big displacement, more performance for your money, and convenient installation.

### ■ RELIABILITY AND DIESEL DURABILITY

Diesel tough components and conservative speed for smooth operation and long engine life.

## Industrial Diesel Engine

# 3054

69-122 bhp/52-91 kW  
2200-2400 rpm

**1996 EPA and CARB Non-Road  
Emissions Certified**

## CATERPILLAR® ENGINE SPECIFICATIONS

In-Line 4 Cylinder, Four-Stroke-Cycle Diesel

Bore — in (mm) ..... 3.937 (100)

Stroke — in (mm) ..... 5.00 (127)

Displacement — cu in (liter) ..... 243 (4)

Combustion System ..... Direct injection

Rotation (from flywheel end) ..... Clockwise

Capacity for Liquids — U.S. gal (L)

Cooling System (engine only)

DINA ..... 2.7 (10.3)

DIT ..... 2.9 (11.0)

DITA ..... 3.0 (11.4)

Lube Oil System (refill) typical ..... 1.85 (7.01)

Weight, Net Dry (approximate) — lb (kg)

Naturally Aspirated (NA) ..... 601 (273)

Turbocharged (T) ..... 614 (279)

Turbocharged-Aftercooled (TA) ..... 627 (285)

Rated Engine Speed, Full Load

Intermittent — rpm ..... 2200-2400

Continuous — rpm ..... 2200-2400

### ■ HIGH PERFORMANCE

Horsepower and torque capabilities optimized. Substantial 20 percent torque rise.

### ■ CLEAN AND QUIET POWER

Cleaner and quieter, free from visible smoke throughout operational speed range.

### ■ EASY LOW-COST MAINTENANCE

Convenient positioning of service points on right-hand side for easy accessibility.

## FEATURES

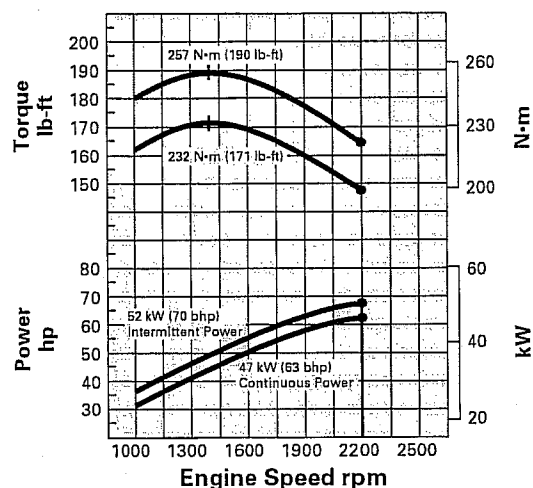
*Options must be selected for the following features. See your Caterpillar dealer for a detailed description of options for each feature.*

Adapter plate	Fan and extensions	Lubricating oil filter and cooler
Alternator	Fan drive	Lubricating oil pressure switch
Balancer	Flywheel and starter ring	Lubricating oil sump
Belt-driven auxiliaries	Flywheel housing	Paint
Cab heater connections	Front end drives	Radiator
Cold start aid	Fuel filter	Rating
Coolant pump and thermostat housing	Fuel pre-filter	Starter motor
Coolant temperature gauge and sender	Heater switch	Stop and throttle controls
Engine mountings	Induction manifolds	Timing case and gear-driven auxiliaries
Exhaust manifolds	Lifting eyes	Turbocharger, manifolds
	Lubricating oil fillers and breathers	

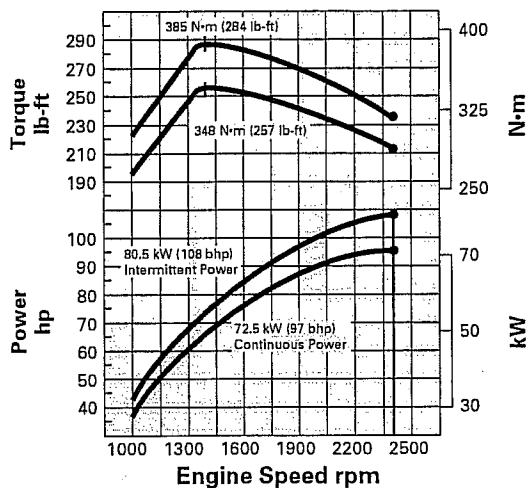


## PERFORMANCE DATA

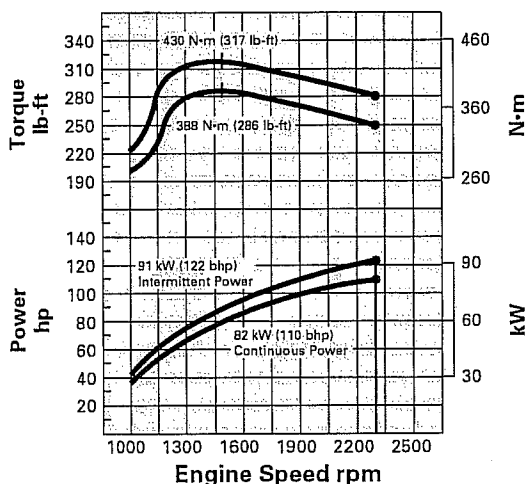
### Naturally Aspirated



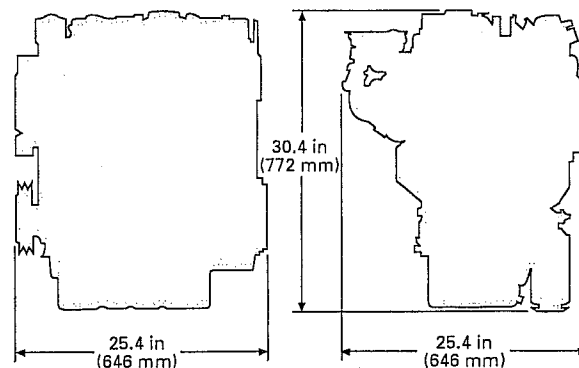
### Turbocharged



### Turbocharged-Aftercooled



## DIMENSIONS



\* Consult factory for application approval.

## RATING DEFINITIONS AND CONDITIONS

**Intermittent** is the horsepower and speed capability of the engine which can be used for about one hour, followed by an hour of operation at or below the continuous rating.

**Continuous** is the horsepower and speed capability of the engine which can be used without interruption or load cycling.

Additional ratings are available for specific customer requirements. Consult your Caterpillar dealer.

**Ratings** are based on SAE J1995 standard conditions of 29.61 in Hg (100 kPa) and 77° F (25° C). These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions of 29.61 in Hg (100 kPa), 81° F (27° C), and 30% relative humidity.

**Fuel consumption** is based on fuel oil having an LHV of 18 390 Btu/lb (42 780 kJ/kg) and weighing 7.001 lb/U.S. gal (838.9 g/liter). Power ratings are based on engine equipped with fuel, lube oil and jacket water pumps but without fan.



# CATERPILLAR®

## Industrial Diesel Engine

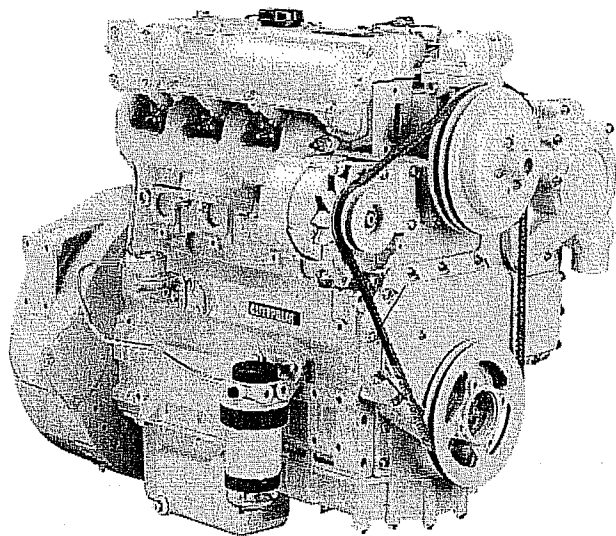
# 3054B

86 bhp/64 kW  
2200-2400 rpm

**1996 EPA and CARB Non-Road  
Emissions Certified**

### CATERPILLAR® ENGINE SPECIFICATIONS

In-Line 4 Cylinder, Four-Stroke-Cycle Diesel  
Bore — in (mm) ..... 4.055 (103)  
Stroke — in (mm)..... 5.00 (127)  
Displacement — cu in (liter) ..... 258 (4.2)  
Combustion System ..... Direct injection  
Rotation (from flywheel end) .. Counterclockwise  
Capacity for Liquids — U.S. gal (L)  
Cooling System (engine only) ..... 2.77 (10.5)  
Lube Oil System (refill) typical ..... 1.85 (7.01)  
Weight, Net Dry (approximate) —  
lb (kg) ..... 601 (273)  
Rated Engine Speed, Full Load  
Intermittent — rpm ..... 2400  
Continuous — rpm ..... 2200



Engine Pictured with  
Optional Equipment

### BENEFITS

#### ■ FUEL ECONOMY

Consistent performance and excellent fuel economy over entire operating range.

#### ■ BROAD APPLICATION RANGE

Big displacement, more performance for your money, and convenient installation.

#### ■ RELIABILITY AND DIESEL DURABILITY

Diesel tough components and conservative speed for smooth operation and long engine life.

#### ■ HIGH PERFORMANCE

Horsepower and torque capabilities optimized. Substantial 20 percent torque rise.

#### ■ CLEAN AND QUIET POWER

Cleaner and quieter, free from visible smoke throughout operational speed range.

#### ■ EASY LOW-COST MAINTENANCE

Convenient positioning of service points on right-hand side for easy accessibility.

### FEATURES

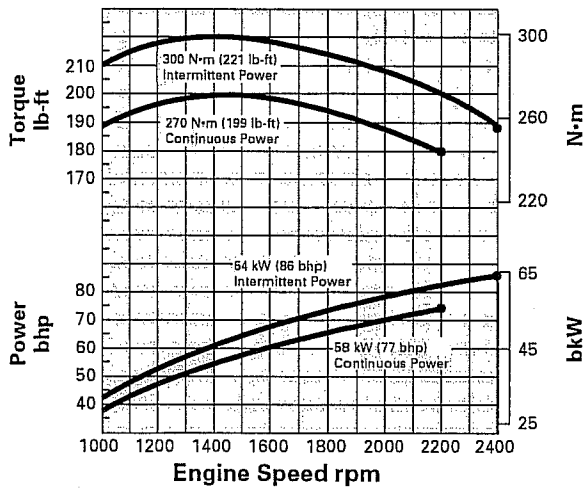
*Options must be selected for the following features. See your Caterpillar dealer for a detailed description of options for each feature.*

Adapter plate	Fan and extensions	Lubricating oil filter and cooler
Alternator	Fan drive	Lubricating oil pressure switch
Balancer	Flywheel and starter ring	Lubricating oil sump
Belt-driven auxiliaries	Flywheel housing	Paint
Cab heater connections	Front end drives	Radiator
Cold start aid	Fuel filter	Rating
Coolant pump and thermostat housing	Fuel pre-filter	Starter motor
Coolant temperature gauge and sender	Heater switch	Stop and throttle controls
Engine mountings	Induction manifolds	Timing case and gear-driven auxiliaries
Exhaust manifolds	Lifting eyes	Turbocharger, manifolds
	Lubricating oil fillers and breathers	



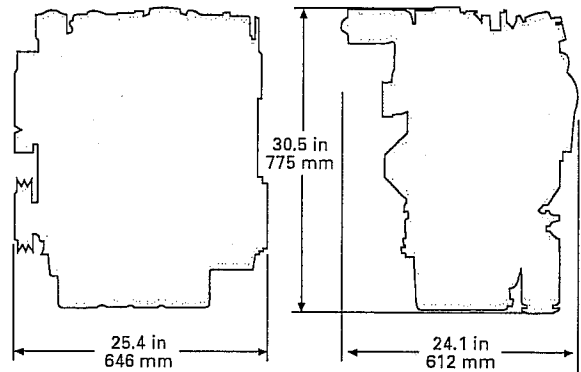
## PERFORMANCE DATA

Naturally Aspirated



\* Consult factory for application approval.

## DIMENSIONS



## RATING DEFINITIONS AND CONDITIONS

**Intermittent** is the horsepower and speed capability of the engine which can be used for about one hour, followed by an hour of operation at or below the continuous rating.

**Continuous** is the horsepower and speed capability of the engine which can be used without interruption or load cycling. Additional ratings are available for specific customer requirements.

Additional ratings are available for specific customer requirements. Consult your Caterpillar dealer.

**Ratings** are based on SAE J1995 standard conditions of 29.61 in Hg (100 kPa) and 77° F (25° C). These ratings also apply at ISO3046/1, DIN6271 and BS5514 standard conditions of 29.61 in Hg (100 kPa), 81° F (27° C) and 30% relative humidity.

**Fuel consumption** is based on fuel oil having an LHV of 18 390 Btu/lb (42 780 kJ/kg) and weighing 7.001 lb/U.S. gal (838.9 g/liter). Power ratings are based on engine equipped with fuel, lube oil and jacket water pumps but without fan.



# CATERPILLAR®

## Diesel Truck Engine

# 3126B 175-300 hp

420-860 lb-ft @ 1440 rpm Peak Torque

### CATERPILLAR® ENGINE SPECIFICATIONS

6-Cylinder, 4-Stroke-Cycle Diesel

Bore — in (mm)..... 4.33 (110)

Stroke — in (mm) ..... 5.0 (127)

Displacement — cu in (L) ..... 439 (7.2)

Aspiration ..... ATAAC<sup>1</sup>

Compression Ratio

175-300 hp..... 16:1

Rotation (from flywheel end).. Counterclockwise

Cooling System<sup>2</sup> — gal (L)..... 3.5 (13.2)

Lube Oil System (refill) — gal (L).... 4.75 (18.0)<sup>3</sup>

Weight, Net Dry (approx) — lb (kg)

Including Flywheel..... 1295 (588)

<sup>1</sup> Air-to-Air AfterCooling

<sup>2</sup> Engine Only. Capacity will vary with radiator size and use of cab heater.

<sup>3</sup> Optional 28L (7.5 gal) oil pan also available in some chassis.

### ACCESSORY EQUIPMENT

Air compressor, gear driven, 13.2 cfm

(0.37 m<sup>3</sup>/min), or (16.5 cfm [0.46 m<sup>3</sup>/min]) with

gear driven pump drive

Air inlet elbow (L.H. side)

Alternator, 12 Volt, 115 Ampere; 21SI and drive

Block heater, 1000 Ampere

Coolant, conditioners

Dipstick (R.H. side)

Exhaust adapters

Fan drives

Front PTO adapter

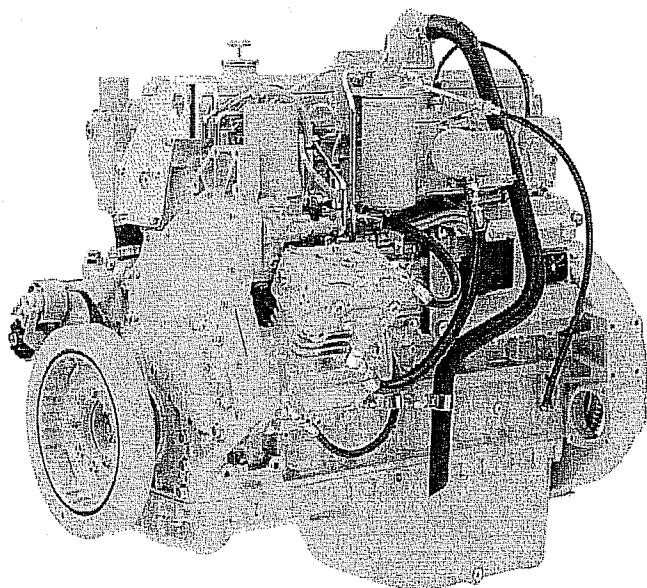
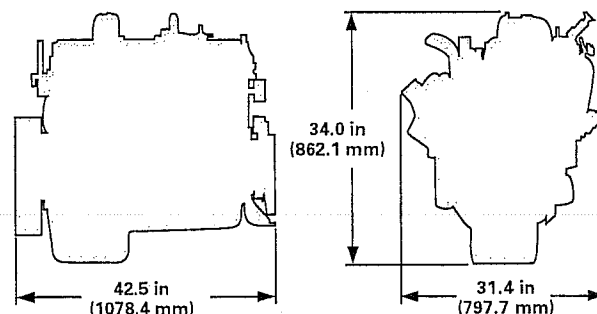
Front support

Hydraulic pump drive, SAE A or SAE B

Turbocharger compressor outlet elbow

Starting motor, 12 volt

### DIMENSIONS



Shown with  
Optional Equipment

### STANDARD EQUIPMENT

Air inlet manifold heater

Cooling, belt driven jacket water pump, oil cooler

Crankcase breather

Dipstick (L.H. side)

Electronic Control Module (ECM)

Electronic Data Link, ATA/SAE

Flywheel and SAE No. 2 housing

Fuel, spin-on filter, transfer pump, hand priming pump

Governor — full-range electronically controlled

Hydraulic Electronic Unit Injection (HEUI) system

Lifting eyes

Lubricating, spin-on filter, pump, front or rear sump pan

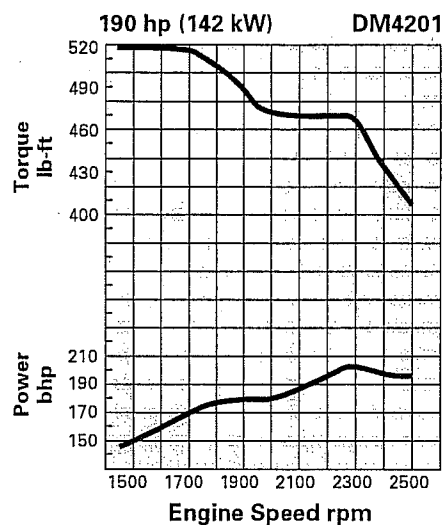
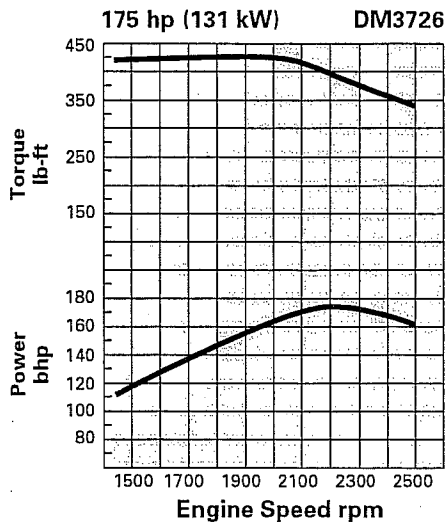
Turbocharger

Vibration damper





## PERFORMANCE CURVES

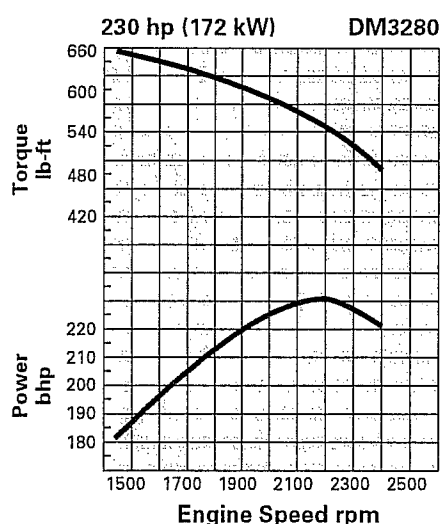
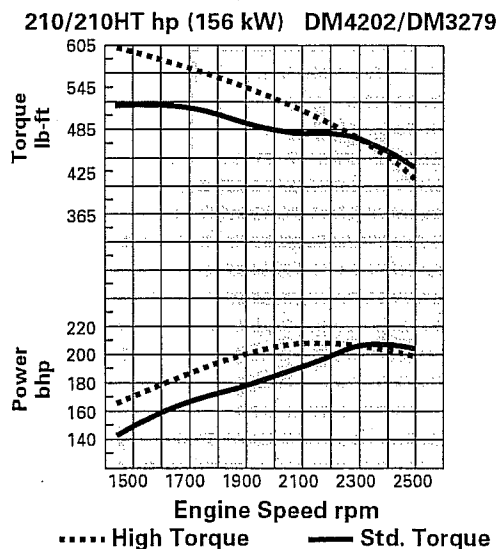


## PERFORMANCE DATA

Rated hp (kW)	175 (131)
Rated rpm	2200
Governed Speed rpm	2500
Low Idle rpm	700
Operating Range (rpm)	1060
Altitude Capability – ft (m)	10 000 (3050)
Peak Torque – lb-ft (N•m)	420 (569)
Peak Torque rpm	1440
Torque Rise (%) (Gov. rpm)	25

Rated hp (kW)	190 (142)
Rated rpm	2200
Governed Speed rpm	2500
Low Idle rpm	700
Operating Range (rpm)	1060
Altitude Capability – ft (m)	10 000 (3050)
Peak Torque – lb-ft (N•m)	520 (705)
Peak Torque rpm	1440
Torque Rise (%) (Gov. rpm)	40

## PERFORMANCE CURVES



## PERFORMANCE DATA

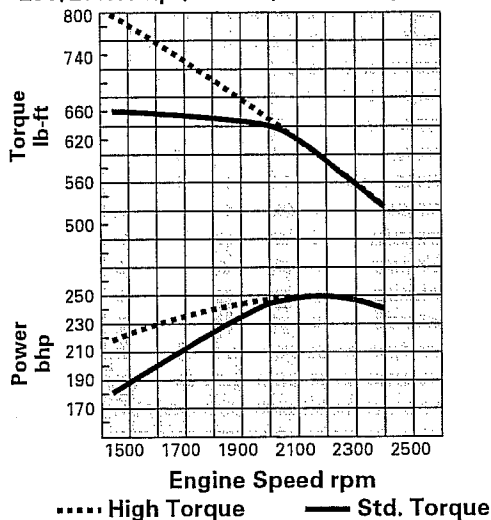
Rated hp (kW)	210 (156)
Rated rpm	2200
Governed Speed rpm	2500
Low Idle rpm	700
Operating Range (rpm)	1060
Altitude Capability – ft (m)	10 000 (3050)
Peak Torque – lb-ft (N•m)	520 (705)/605 (820)
Peak Torque rpm	1440
Torque Rise (%) (Gov. rpm)	23/45

Rated hp (kW)	230 (172)
Rated rpm	2200
Governed Speed rpm	2400
Low Idle rpm	700
Operating Range (rpm)	960
Altitude Capability – ft (m)	10 000 (3050)
Peak Torque – lb-ft (N•m)	660 (895)
Peak Torque rpm	1440
Torque Rise (%) (Gov. rpm)	37

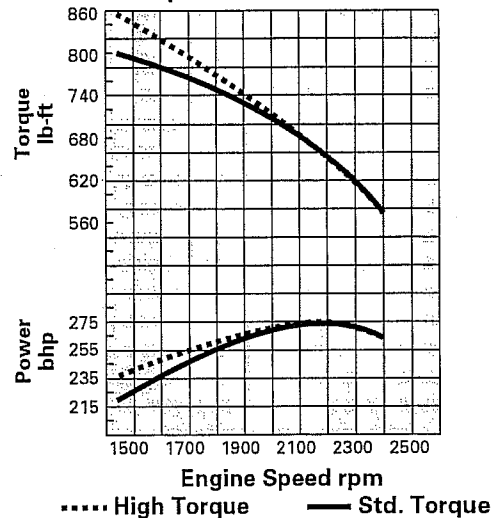


## PERFORMANCE CURVES

250/250HT hp (186 kW) DM3281/DM3282



275/275HT hp (205 kW) DM3283/DM3284



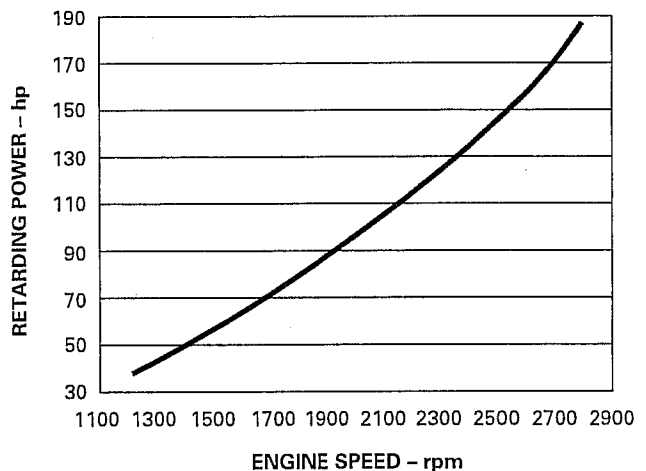
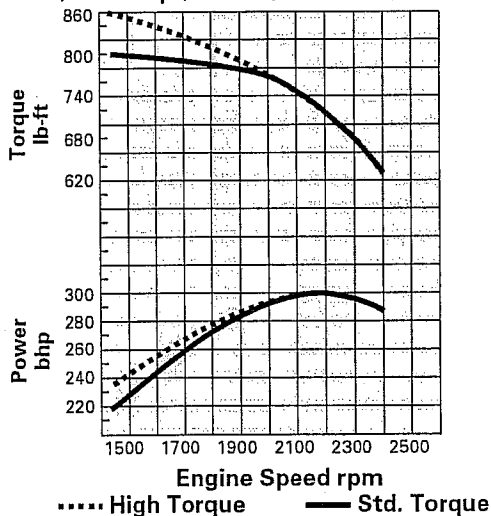
## PERFORMANCE DATA

Rated hp (kW)	250 (186)
Rated rpm	2200
Governed Speed rpm	2400
Low Idle rpm	700
Operating Range (rpm)	960
Altitude Capability – ft (m)	10 000 (3050)
Peak Torque – lb-ft (N•m)	660 (895)/800 (1085)
Peak Torque rpm	1440
Torque Rise (%) (Gov. rpm)	26/52

Rated hp (kW)	275 (205)
Rated rpm	2200
Governed Speed rpm	2400
Low Idle rpm	700
Operating Range (rpm)	960
Altitude Capability – ft (m)	10 000 (3050)
Peak Torque – lb-ft (N•m)	800 (1085)/860 (1166)
Peak Torque rpm	1440
Torque Rise (%) (Gov. rpm)	39/49

## PERFORMANCE CURVES

300/300HT hp (224 kW) DM3285/DM3286



## PERFORMANCE DATA

Rated hp (kW)	300 (224)
Rated rpm	2200
Governed Speed rpm	2400
Low Idle rpm	700
Operating Range (rpm)	960
Altitude Capability – ft (m)	10 000 (3050)
Peak Torque – lb-ft (N•m)	800 (1085)/860 (1166)
Peak Torque rpm	1440
Torque Rise (%) (Gov. rpm)	27/37

## Exhaust Brake Performance

Three operational modes can be programmed:  
Coast, Latch, or Manual



## **ELECTRONIC FEATURES**

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Electronic self-diagnostics

Compatible with Caterpillar electronic technician (ET), electronic control analyzer programmer (ECAP), and MPSI Pro-Link service tools

Cold weather startup strategy and electronic idle control functions

ECM storage of operational, maintenance, and diagnostic data

J1939 compatible — ABS, Allison WT

Customer selectable, re-programmable operational parameters:

- Engine Monitoring System — off, warning, derate, or shutdown
- Cruise control with exclusive SoftCruise
- Vehicle speed [mph (km/h)] limiting and protection
- Idle shutdown timer & override
- 2-speed fast idle
- Maintenance monitor [miles (km) or hours]
- Cooling fan control
- Customer password protection
- Exhaust brake operational modes
- Theft deterrent
- Adjustable low idle rpm
- OEM parameter lockout

Programmable Power Take-Off (PTO) functions:

- Adjustable speed control [mph (km/h)] of vehicle while in PTO mode
- Adjustable maximum engine rpm speed
- Adjustable minimum engine rpm speed
- Limit engine torque to driven equipment
- Adjustable ramp rate up or down between PTO set speed(s)
- Adjustable rpm "bump" intervals
- Selectable PTO configuration for "in cab" or station of remote operation

## **GEARING CONSIDERATIONS**

---

The 3126B is designed and built to take full advantage of a "gear fast, run slow" strategy. Unlike mechanically governed engines of the past, the fully electronic 3126B need not be gear-bound to limit maximum vehicle speed — this should be done using Vehicle Speed Limiting (VSL) and Protection.

For the best balance of performance and fuel economy, spec axle ratios and tire sizes to obtain: **2000 rpm @ 60 mph** (97 km/h) subject to the following: Maximum cruise speed of **65 mph** (105 km/h) or below. Maximum recommended engine speed at cruise — 2400 rpm. Minimum recommended engine speed at a cruise speed of 55 mph (89 km/hr) — **1800 rpm**

Depending on the application, the absolute minimum startability in first gear should be 6 percent, preferably in excess of 10 percent. On/off highway severe service applications will require considerably greater startability. Minimum gradeability should be 1.5 percent (1.8 percent recommended) at peak torque in top gear, and 0.5 percent at cruise rpm.

To further optimize the matching of your truck to the performance characteristics of the engine, a computerized spec'ing tool called Caterpillar Truck Engine Pro (CTEP) is offered by your Caterpillar dealer. It calculates the effects of various driveline variables on engine operation such as transmissions, axles, and tires. This lets you see the results before you finalize your truck specs.

## **RATING DEFINITIONS AND CONDITIONS**

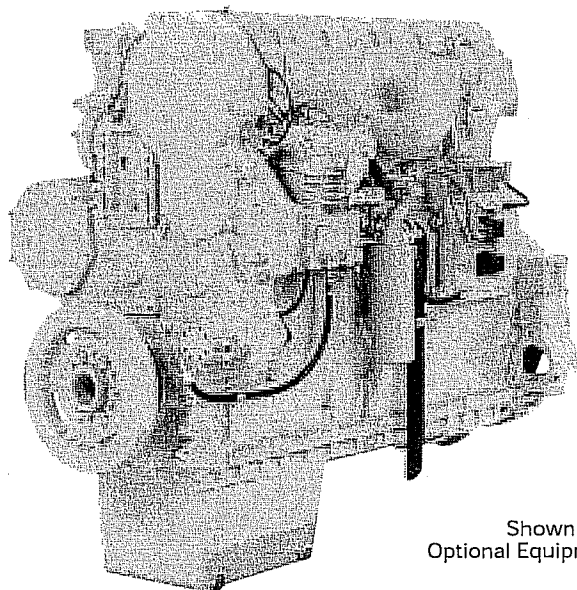
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**Performance** is based on SAE J1349 standard conditions of 29.61 in. Hg (100 kPa) and 77° F (25° C).

The curves shown are for a standard engine without fan, but equipped with air compressor and fuel, lubricating oil, and jacket water pumps.



# CATERPILLAR®



Shown with  
Optional Equipment

## CATERPILLAR® ENGINE SPECIFICATIONS

Bore — in (mm)..... 5.4 (137)  
 Stroke — in (mm)..... 6.5 (165)  
 Displacement — cu in (L)..... 893 (14.6)  
 Aspiration ..... Turbocharged for ATAAC<sup>1</sup>  
 Rotation (from flywheel end) .. Counterclockwise  
 AMA Rating for USA tax purposes — hp ... 70.0  
 Cooling System<sup>2</sup> — gal (L) ..... 5.5 (20.8)  
 Lube Oil System (refill) — gal (L) .... 10.0 (38.8)  
 Weight, Net Dry (approx) — lb (kg)  
     with standard equipment ..... 2867 (1302)

## PERFORMANCE DATA

Operating Range (rpm)..... (1200–1800) 600  
 Maximum Engine rpm ..... 1820  
 Governed Speed — rpm ..... 1800  
 Advertised hp (kW) ..... 375 (280)/435 (425)  
 Max hp @ 1600 rpm (kW) ... 403 (301)/450 (336)  
 Peak Torque —  
     lb-ft (N·m) ..... 1450 (1972)/1550 (2108)  
 Peak Torque — rpm..... 1200  
 Torque rise (%)..... 32/22  
 Altitude Capability — ft (m) ..... 7500 (2288)



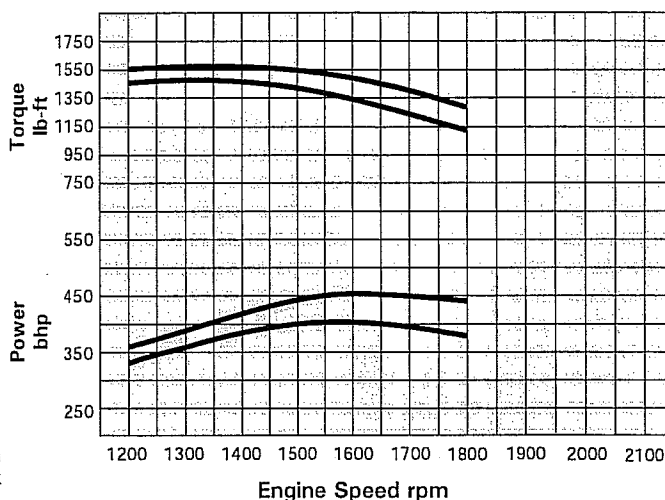
<sup>1</sup> Air-to-Air AfterCooling

<sup>2</sup> Engine only. Capacity will vary with radiator size and use of cab heater.

# Diesel Truck Engine 375/435 hp MT 3406E

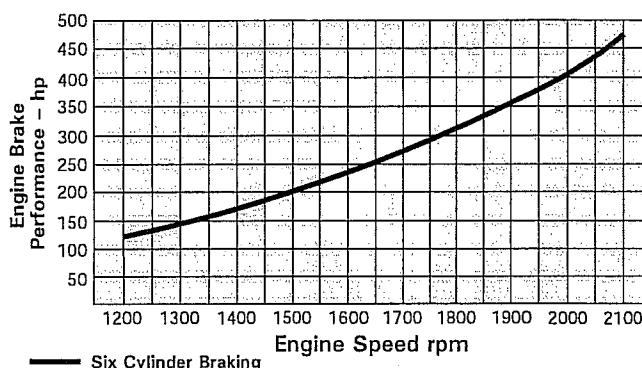
1450/1550 lb-ft @ 1200 rpm Peak Torque

## PERFORMANCE CURVES



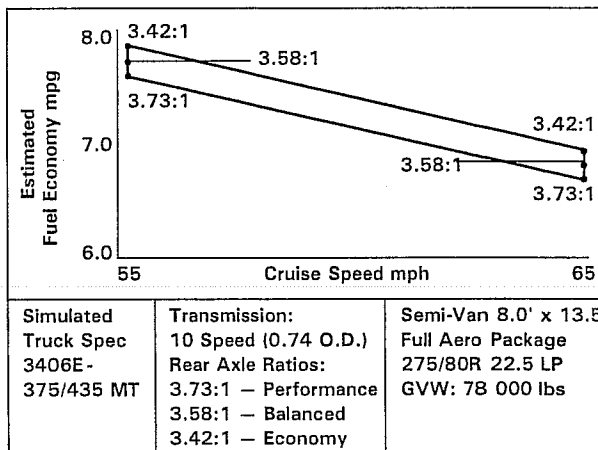
Programmable Top Engine Limit Range 1600–2100 rpm

## ENGINE RETARDATION\*



Data provided by Jacobs\* Vehicle Systems for Model 340B.  
 \* Retarding performance per SAE J1621 STD.

## SIMULATED VEHICLE PERFORMANCE



Simulated Truck Spec 3406E- 375/435 MT	Transmission: 10 Speed (0.74 O.D.) Rear Axle Ratios: 3.73:1 — Performance 3.58:1 — Balanced 3.42:1 — Economy	Semi-Van 8.0' x 13.5' Full Aero Package 275/80R 22.5 LP GVW: 78 000 lbs
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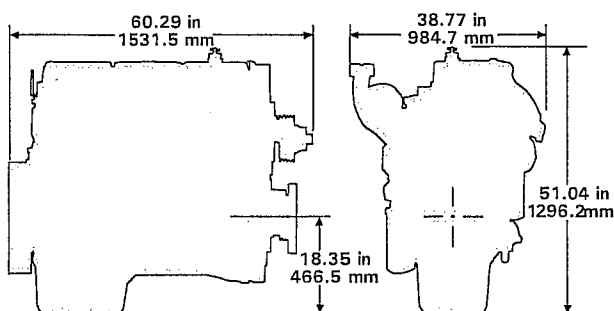
## STANDARD EQUIPMENT

Air Compressor, gear driven,  
13.2 cfm (0.37 m<sup>3</sup>/min)  
Crankcase breather, block mounted  
Electronic control module (ECM)  
Electronic data link, ATA/SAE  
Electronically controlled unit injector fuel system (EUI)  
Fan drive mounting bracket  
Flywheel and SAE No. 1 housing  
Front support  
Fuel — spin-on filter, priming and transfer pumps  
Gear driven jacket water pump  
Governor — full-range electronically controlled  
Hydraulic steering pump drive, SAE A  
Lifting eyes  
Lubricating — cooler, right hand filler, full flow  
filter, gear-driven pump, front or rear sump pan  
Turbocharger  
Vibration damper

## ACCESSORY EQUIPMENT

Air compressor, gear driven 16.5 or 31 cfm  
Air inlet elbows  
Alternator (12 Volt-65 Amp, 24 Volt-45 Amp  
or 60 Amp)  
Auxiliary pulleys and drives  
BrakeSaver (hydraulic retarder) — front or rear sump  
Coolant conditioner, dry-charge  
Exhaust couplings  
Fan and fan accessories  
Fan drive, adjustable  
Jacobs® engine brake Model 340B  
Primary fuel filter  
Refrigerant compressor mounting  
Sound suppression panels — block  
Starter, 12 or 24 Volt  
Transmission mountings

## DIMENSIONS



## RATING DEFINITIONS AND CONDITIONS

**Performance** is based on SAE J1995 standard conditions of 29.61 in. Hg (100 kPa) and 77°F (25°C).

**Fuel consumption** is based on fuel oil having an LHV of 18 390 Btu/lb (42 780 kJ/kg) and weighing 7.001 lb/U.S. gal (839 g/liter).

## ELECTRONIC FEATURES

- Electronic self-diagnostics
- Electronically tabulated total fuel consumption, hours, and miles
- Electronically tabulated total idle time
- User-selectable, reprogrammable vehicle operating parameters — vehicle mph speed limiting, engine rpm speed limiting, cruise control, mph range, intermediate gears and low gear limits, geardown protection, PTO vehicle mph speed limit, PTO engine rpm speed limit, programmable idle rpm speed, idle shutdown timer, PTO ramp rate, top engine rpm limit, top engine rpm limit with droop.

## GEARING CONSIDERATIONS

Caterpillar® 3406E ATAAC Truck Engines offer a wide operating range and high torque rise which promotes the use of transmissions with fewer gears. Even with this built-in feature, heavy/specialty haulers must remember their trucks should be geared to achieve the appropriate compromise between startability and desired road speed. Typical loads of 80 000 lb or less are less affected by improper drive train specing than are heavy haulers. In general, either application shares one similar recommendation — gear fast/run slow is essential for good fuel consumption.

If any of the following conditions are present, special attention should be given to proper transmission and axle specifications. A complete Caterpillar Truck Engine Pro (TEP) analysis is available from your local Caterpillar or truck dealer.

1. Poor road surface
2. Adverse grades — 8% plus
3. GVW in excess of 80 000 lb

### General Gearing Recommendations 24.5 Low Profile Tires (502 rev/mile)

Transmission		100,000	120,000	140,000
Gear	Ratio	GVW	GVW	GVW
8+2 spd	.74	3.55-4.33	3.90-4.56	3.90-4.56
13 spd	.73	3.55-4.33	3.90-4.56	3.90-4.56
15 spd	.79	3.70-4.11	3.90-4.11	4.11-4.33
18 spd	.73	3.55-4.33	3.90-4.56	3.90-4.56

The curves shown are for a standard engine without fan, but equipped with air compressor and fuel, lubricating oil and jacket water pumps.

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for details.

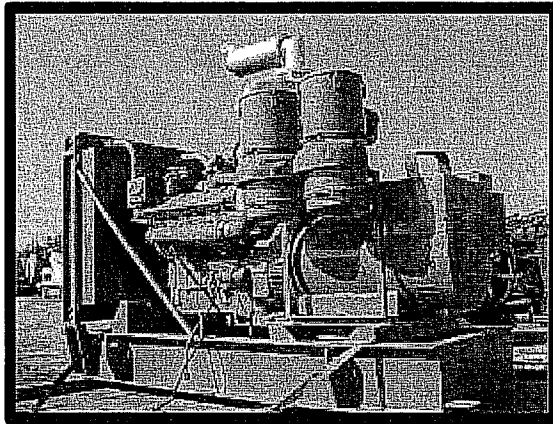


## **Attachment DR 6-2**

# **Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines**



# **Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines**



California Environmental Protection Agency



**Air Resources Board**

**Stationary Source Division  
Emissions Assessment Branch**

**October 2000**



**Table 1: Standby Diesel Engine Parameters**

					QS	HS	TS		DS	VS
Engine	calculated Fuel Use	Load	Exhaust Flow	Exhaust Flow	emission rate	stack height	stack temp	stack diameter	stack diameter	stack velocity
HP	(gal/hr)	(%)	(dscfm)	(acfm)	g/s	meters	K	inches	meters	m/s
50	2.8	100	124	282	0.00139	3	622	2	0.051	65.7
100	5.2	100	225	514	0.00278	3	622	3	0.076	53.2
200	10.4	100	450	1028	0.00556	3	622	4	0.102	59.9
300	15.5	100	675	1541	0.00833	3	622	5	0.127	57.5
400	20.7	100	900	2055	0.01111	3	622	5	0.127	76.6
500	25.9	100	1125	2569	0.01389	3	622	6	0.152	66.5
600	31.1	100	1350	3083	0.01667	3	622	6	0.152	79.8
700	36.3	100	1575	3597	0.01944	3	622	7	0.178	68.4
750	38.9	100	1688	3854	0.02083	3	622	7	0.178	73.3
800	41.5	100	1800	4111	0.02222	3	622	8	0.203	59.9
900	46.6	100	2025	4624	0.02500	3	622	8	0.203	67.3
1000	51.8	100	2250	5138	0.02778	3	622	9	0.229	59.1
1100	57.0	100	2475	5652	0.03056	3	622	10	0.254	52.7
1200	62.2	100	2700	6166	0.03333	3	622	10	0.254	57.5
1300	67.4	100	2925	6680	0.03611	3	622	11	0.279	51.4
1400	72.6	100	3150	7194	0.03889	3	622	12	0.305	46.6
1500	77.7	100	3376	7707	0.04167	3	622	13	0.330	42.5

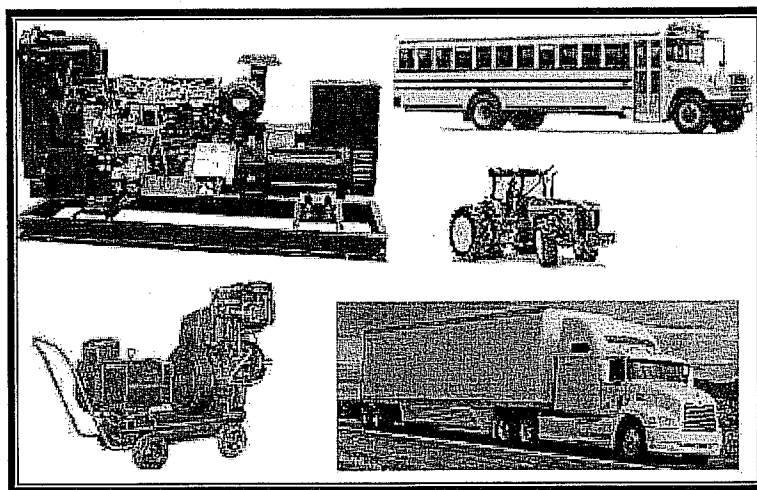


## **Attachment DR 6-3**

### **Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles**



# **Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles**



California Environmental Protection Agency  
 **Air Resources Board**

Stationary Source Division  
Mobile Source Control Division

October 2000



**Appendix VII**  
**Risk Characterization Scenarios**

**October 2000**



the maximum risk of cancer. The greater amount of time for the release also contributes to increasing the maximum risk of cancer.

In addition to increased diesel PM emissions, the diesel PM emissions were modeled as if released during the time of the day with the worst dispersion conditions (3:00 p.m.) using Anaheim meteorological data. For more details, see Table 5.

## **F. Prime Engines**

In this scenario, we evaluated diesel PM emissions from prime engines. Prime engines are used in a variety of applications, e.g., compressors, cranes, generators, pumps (including agricultural pumps), grinders, or screening units. Engines used in agricultural irrigation operations represent about two-thirds of the engines in prime applications. The size and operation of prime engines are highly variable, depending on the specific operation. Data provided by local air districts showed that high use engines have a wide range of horsepower ratings. We chose a 420 HP engine and a 1490 HP engine to generate, respectively, the high and low ends of the cancer risk range. We chose these engines due to availability of engine operating parameters at various loads.

To generate the lower end of the potential cancer risk range at the point of maximum impact, we used a 1,490 HP engine operating at 100% load for 100 hours per year with an emission factor of 0.1 g/bhp-hr. The high load and increased horsepower of the larger engine increase dispersion because of the higher exhaust temperature, thereby decreasing the maximum risk of cancer. The lesser amount of time for the release also contributes to decreasing the maximum risk of cancer. We assumed the diesel PM emissions were released at the time of day with the best dispersion conditions (6:00 a.m.) using Concord meteorological data.

To generate the higher end of the potential cancer risk range at the point of maximum impact, we used a 420 HP engine operating at 80 percent load for 2,080 hours per year with an emission factor of 1.0 g/bhp-hr. The lower load and decreased horsepower of the smaller engine decrease dispersion because of the lower exhaust temperature, thereby increasing the maximum risk of cancer. Decreasing the load to 10 percent was not practical for simulating an engine working for a lengthy amount of time. The greater amount of time for the release also contributes to increasing the maximum risk of cancer. We modeled the diesel PM emission as if they were released during the time of the day with the worst dispersion conditions (12:00 p.m. to 5:00 p.m.) using Anaheim meteorological data. For more details, see Table 6. The stack diameters for the low and high end risk ranges were taken from the table found in U.S. EPA guidance listed in 40 CFR PART 86.884-8 (c)(4).

## **G. Distribution Center**

In this scenario, we evaluated diesel PM emissions associated with the shipping and receiving of goods at a distribution center. We modeled two facilities to create a



**Table 6: Prime Engine Scenario**

<b>Engine Operating Parameter</b>	<b>Low Risk</b>	<b>High Risk</b>
Maximum Engine Rating	1,490 HP	420 HP
Emission Factor	0.1 g/bhp-hr*	1.0 g/bhp-hr**
Load	100 percent	80 percent
Emission Rate	0.04139 g/sec	0.0933 g/sec
Stack Temperature	769 K	739 K
Stack Height	3 m	3 m
Stack Diameter	0.330 m	0.127 m
Stack Exit Velocity	45.4 m/sec	90.8 m/sec
<p>* Current on-road heavy-duty certification standard.</p> <p>** United States Environmental Protection Agency, Air and Radiation, Office of Air Quality Planning &amp; Standards, Emission Factors, April 1998, "Compilation of Air Pollutant Emission Factors AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources, Chapter 3, Section 3.3 Gasoline and Diesel Industrial Engines" EPA68-D2-0160.</p> <p>Note: Engine operating parameters based on engine specification sheets provided by engine manufacturers.</p>		
<b>Activity</b>	<b>Low Risk</b>	<b>High Risk</b>
Prime Diesel Engine	A 1,490 HP engine running 0.274 hour/day x 365 days/year = 100 hours/year.	A 420 HP engine running 0.95 of 6 hours/day x 365 days/year = 2,080 hours/year.
<b>ISCST3 Input Parameters</b>	<b>Low Risk</b>	<b>High Risk</b>
Source Type	Point Source	Point Source
MET Data	Concord	Anaheim
Model Option	Urban	Urban
Time Emissions Emitted	6 a.m.	Noon - 5 p.m.
Flagpole Height	1.5 m	1.5 m
Release Height	Same as stack height	Same as stack height
Closest Receptor Location	20 m	20 m



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**Technical Area: Air Quality**

**BACKGROUND**

In the AFC, the temporary 1-hour NO<sub>x</sub> impacts from commissioning appears to be potentially significant (pg. 5.2-71). However, the applicant has concluded that the air quality impacts from commissioning will be insignificant. Staff needs additional information and clarification of specific technical issues to complete the review of the air quality impact analysis.

**Data Request 7:** Please describe each commissioning activity listed in the table in Appendix H.12 on page H-178. Include the following additional information:

- a. Please provide fuel consumption data for each commissioning event.
- b. Please provide available vendor data and calculations to support the commissioning emissions including stack parameters for each commissioning event.
- c. Please provide a screening level modeling analysis of each of the commissioning events, using event specific exhaust parameters, to confirm that the modeling results do represent worst-case conditions.

If this screening analysis indicates that another commissioning event represents worst-case, please remodel the commissioning emissions and present the revised modeling results.

**Response:** a. & b. The start-up sequence is based on the attached Black and Veatch plant cold, warm, and hot start-up curves (load VS time). The combustion turbine emissions per startup are obtained by combining the Black & Veatch startup curves (load VS time) and GE startup emissions curves (load VS emissions) into a function of startup time VS emissions.



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Integration of this function results in the total emissions per startup. The same method was used to obtain total fuel flow during startup.

The estimates of combustion turbine emissions at different loads are based on a fax from Joseph A. Such, GE Power Systems, to Barry Scrivner, Black & Veatch, Nov. 20, 1998 – Graphs of generator load versus emissions of the General Electric Model PG 7241(FA) Gas Turbine. The curves are marked as confidential and proprietary and can therefore not be revealed.

The combustion turbine base load performance was estimated by GTPE, an online General Electric Performance Estimating Program.

The stack emissions are estimated by Black & Veatch based on the combustion turbine emissions calculated as explained above. The SCR was assumed to be in operation above 50% load. Ammonia injection is varied to maintain constant volumetric NO<sub>x</sub> emissions above 50% load. The CO catalyst was assumed to be in operation above 10% load. The removal efficiency of the CO catalyst was assumed to be proportional to exhaust flow. Detailed calculations are proprietary and can not be revealed.

The expected fuel consumption (at 95° F) per start is as follows:

1. Cold Start Fuel Consumption: 2,979 MBtu (LHV)
2. Warm Start Fuel Consumption: 1,973 MBtu (LHV)
3. Hot Start Fuel Consumption: 1,090 MBtu (LHV)

The expected fuel consumption (at 95° F) at the following combustion turbine loads is:

1. At base load: 1,505 MBtu/h (LHV)
2. At 80% load: 1,280 MBtu/h (LHV)
3. At 70% load: 1,165 MBtu/h (LHV)
4. At 40% load: 830 MBtu/h (LHV)
5. At 20% load: 602 MBtu/h (LHV)
6. At 10% load: 490 MBtu/h (LHV)



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7. At 0% load: 280 MBtu/h (LHV)

The maximum expected duct burner heat input at 95° F is 280 MBtu/h (LHV)

**Description of Commissioning Events**

1. First Fire

Initial Startup of the unit. The total plant heat consumption during this task is 4,450 MBtu (LHV).

2. Install SCR Catalyst

The unit is shut down to install the SCR Catalyst, followed by a re-start (warm). The total plant heat consumption during this task is 1,970 MBtu (LHV).

3. Full Speed, No Load, and First Sync.

The combustion turbine will be brought up to full speed and synchronized with the grid for the first time. The initial start is a cold start. Typically, a shut-down is required to tune the start-up system, followed by a re-start (hot). The total plant heat consumption during this task is 7,980 MBtu (LHV).

4. Emission/Pulsation Tune

The combustion turbines are tuned in order to provide low emissions at maximum output. This requires an initial warm start followed by a shut-down for tuning and a restart (hot). The total plant heat consumption during this task is 9,680 MBtu (LHV).

5. Low Load

The combustion turbines are tuned for low load operation. This requires an initial warm start followed by a shut-down for tuning and a restart (hot). The total plant heat consumption during this task is 5,470 MBtu (LHV).



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6. Steam Blows (with duct firing)  
The balance of plant piping is cleaned with steam from the HRSG. After the initial cold start the main steam piping is cleaned. A shut-down is required to move the temporary piping. After a re-start (warm) the reheat and LP pipes are cleaned. The total plant heat consumption during this task is 201,300 MBtu (LHV).
7. Condenser Bypass Test (no duct firing)  
The combined cycle is operated at base load with the steam turbine bypassed. This typically requires one shut-down to tune/repair bypass valves and bypass desuperheaters. The total plant heat consumption during this task is 20,000 MBtu (LHV).
8. STG Commissioning  
First operation of the steam turbine. This typically requires two shut-down events and re-starts to allow tuning of the system and to take out strainers. The total plant heat consumption during this task is 90,020 MBtu (LHV).
9. Power Train Optimization & Tuning  
First combined cycle operation and base load with online tuning of equipment. The total plant heat consumption during this task is 53,140 MBtu (LHV).
10. Full Load Performance Test and CEMS Certification with duct firing.  
Plant performance and emissions tests for final plant acceptance. This requires several shut-down events and re-starts to install and remove test equipment. The total plant heat consumption during this task is 568,580 MBtu (LHV).
11. Full Load Rejection Testing with and without duct firing.  
Several emergency shut-down tests at different plant loads are performed. The total plant heat consumption during this task is 14,030 MBtu (LHV).



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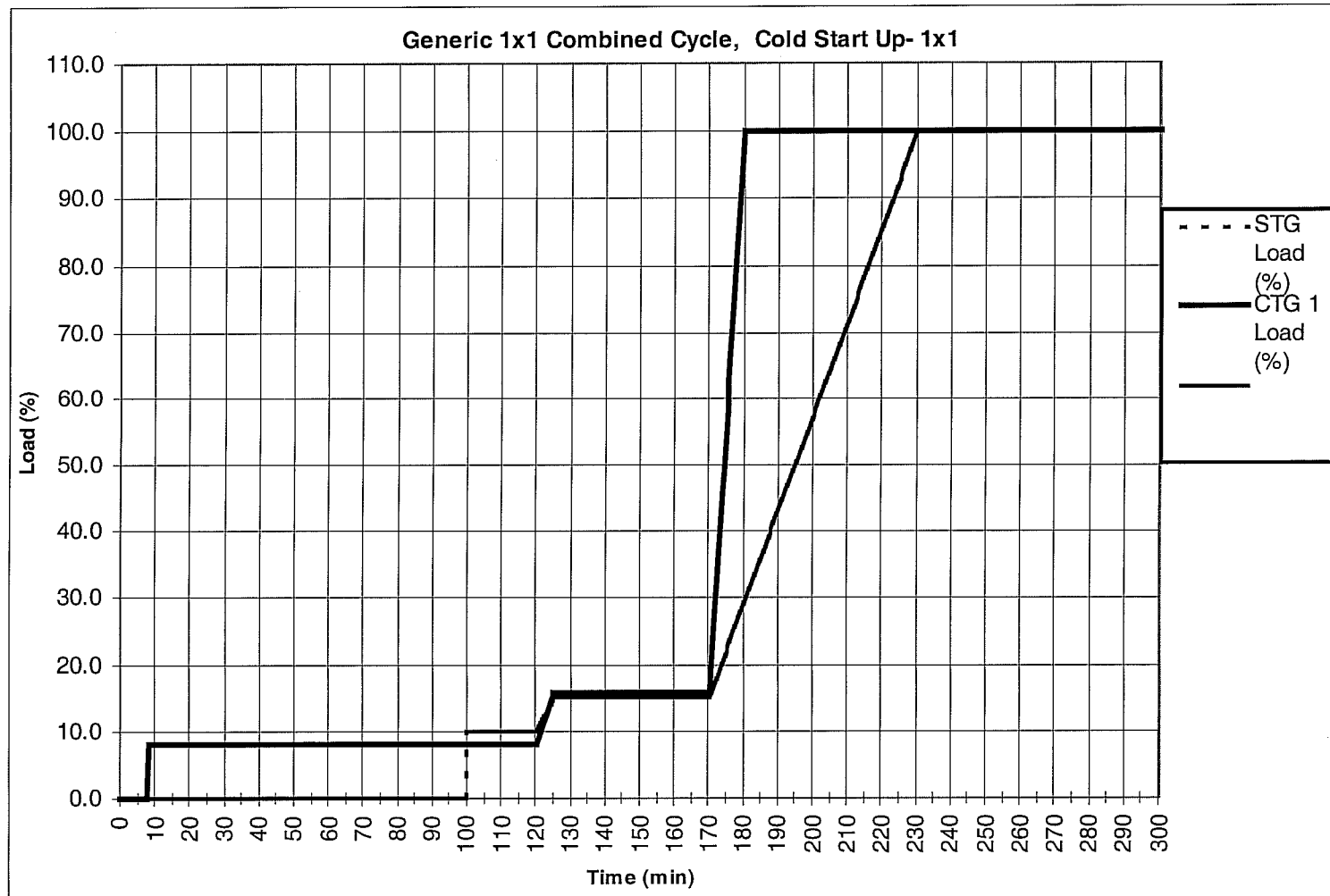
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12. Full Load Run Back with duct firing

Several controlled shut-down tests, starting at different plant loads, are performed. The total plant heat consumption during this task is 20,020 MBtu (LHV).

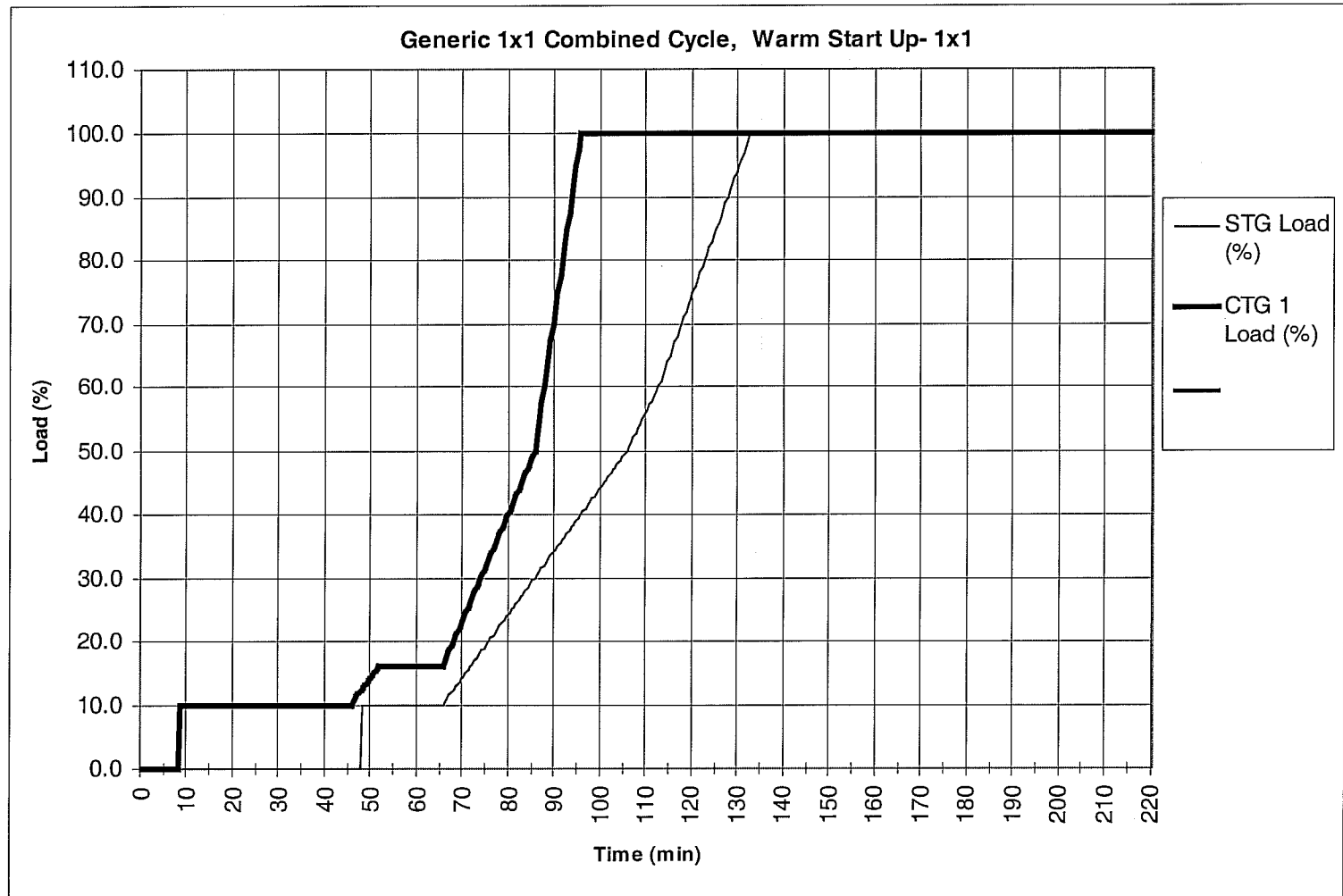


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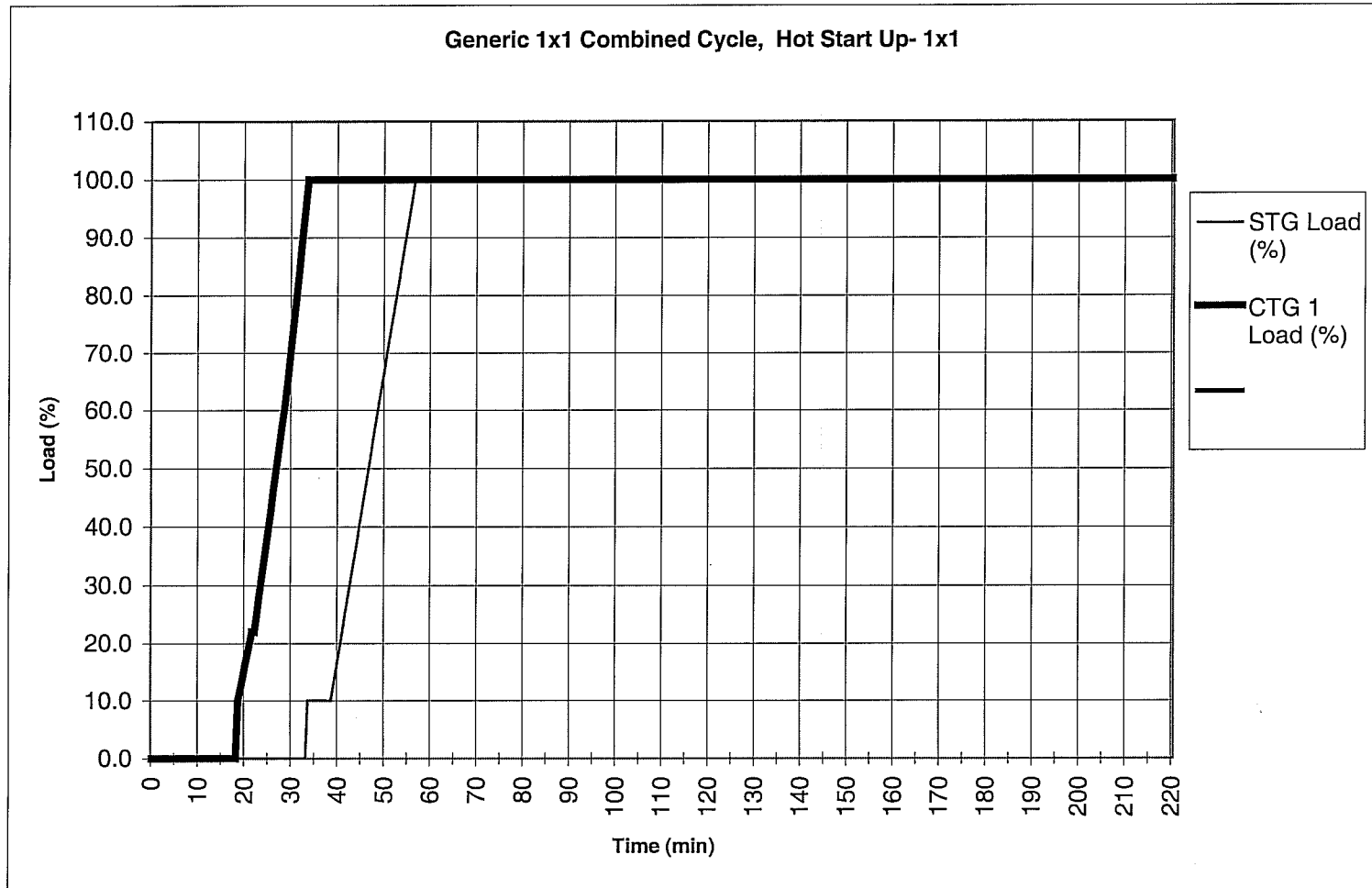


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- c. The commissioning modeling analysis performed and presented in the AFC was considered worst-case. The modeling incorporated maximum emissions for all averaging times for each criteria pollutant modeled.

As shown in Table H.12 of the AFC, maximum hourly CO emissions occur during first fire and full speed, no load, full sync testing. Maximum hourly NO<sub>x</sub> emissions occur during low load testing. These maximum CO and NO<sub>x</sub> emissions used in the modeling analysis are 200 lb/hr (occurs for a total of 11 hours under two testing scenarios) and 192 lb/hr (occurs for a total of four hours under a single operating scenario), respectively. These maximum CO emissions are 11% higher than the second highest emission rate occurring for only eight hours. For the remaining 617 hours, CO emissions range between 6.41 lb/hr and 19.47 lb/hr; less than 10 % of the maximum (see Table 2). The maximum NO<sub>x</sub> emissions are 17% higher than the next highest emissions, which occur for only 11 hours. For the remaining 617 hours, NO<sub>x</sub> emissions range between 6.73 lb/hr and 10.65 lb/hr; less than 6 % of the maximum. Therefore, CO and NO<sub>x</sub> emissions used in the commissioning modeling analysis are more than 90 % greater than during the majority of commissioning activities. PM<sub>10</sub> and SO<sub>2</sub> emissions are not expected to differ from normal operations. Therefore, short-term PM<sub>10</sub> and SO<sub>2</sub> emissions were based on maximum operating conditions including duct burning.

In addition, conservative stack parameters were used. The stack parameters used are consistent with those estimated for start-up conditions. Start-up stack parameters have lower exit temperature and exit velocity resulting in less momentum and less plume buoyancy, decreasing initial dispersion. Based on the conservative emission estimates and that these same conservative stack parameters would be used for all commissioning activities, worst-case impacts have been already been addressed in the AFC. No further modeling has been performed.



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**Technical Area: Air Quality**

**BACKGROUND**

In the AFC, the temporary 1-hour NO<sub>x</sub> impacts from commissioning appears to be potentially significant (pg. 5.2-71). However, the applicant has concluded that the air quality impacts from commissioning will be insignificant. Staff needs additional information and clarification of specific technical issues to complete the review of the air quality impact analysis.

**Data Request 8:** Please provide additional description of the initial commissioning, including the maximum duration of the commissioning period and total heat rate and emissions for all criteria pollutants during initial commissioning that includes any changes in the estimates that may have occurred since the AFC was filed.

**Response:** The initial commissioning events are listed in sequence in the table in Appendix H, page H-178, and total 636 hours. We believe the sequence is descriptive and gives the information requested except for the heat rates at the various loads listed. These heat rates are approximately as follows:

Percent Load	Heat Consumption, Btu/Hr (LHV)
10	490
20	602
40	830
70	1165
80	1280
100	1505



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**Technical Area: Air Quality**

**BACKGROUND**

The Applicant has indicated that the project meets all Best Available Control Technology Requirements; however, the Applicant is proposing a higher VOC (i.e., precursor organic compounds, reactive organic compounds) concentration during duct firing than is recommended by CARB Guidelines for Power Plants and than has been recently permitted for any other similar project. Additionally, a recent BACT determination by USEPA (please see attached letter) suggests that for 7F frame turbine combined-cycle plants, USEPA considers BACT for NO<sub>x</sub> to be 2.0 ppm (@15% O<sub>2</sub> 1-hour rolling average) and BACT, for CO to be 2.0 ppm (@ 15% O<sub>2</sub> 3-hour rolling average). The Applicant is currently proposing a NO<sub>x</sub> emission limit of 2.0 ppm (@15% O<sub>2</sub> 3-hour rolling average) and a CO emission limit of 6.0 ppm (@15% O<sub>2</sub> 3-hour rolling average). Staff needs additional information to identify whether the project will meet BACT for VOC, NO<sub>x</sub> and CO.

**Data Request 9:** Please identify why this project, as opposed to other proposed and certified projects cannot meet a VOC concentration of 2.0 ppm (@15% O<sub>2</sub> 1-hour rolling average) under all operating conditions as currently designed. Also please identify measures, including revising the maximum heat duty of the duct burners, that would allow the project to meet the BACT guideline level and a cost benefit analysis of such measures.

**Response:** As noted in the AFC the project will meet a VOC limit of 2 ppm (@15% O<sub>2</sub> 1-hour rolling average) when duct firing operations are not occurring. This is consistent with other non-duct fired certified projects. It is not possible to meet this limit under duct firing conditions since duct burner design does not result in the same combustion efficiency as a gas turbine. The duct burner manufacturer has provided an estimated emissions rate of 0.024 lb VOC/ MM Btu during duct firing. It is anticipated that the duct firing rate will be a maximum of 568 MMBtu/hr, resulting in an estimated additional 13.6 lb/hr of VOC during duct firing operations. These emission estimates do not take into consideration the potential reductions of VOC due to the oxidation catalyst. It is understood that an oxidation catalyst may



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control VOC emissions by 30 to 35% efficiency. Conservatively assuming 30 % efficiency the VOC emissions could be reduced to 3.6 ppm. Based on this level of control a revised limit of 3.6 ppm is proposed.

Further, the proposed limit during duct firing is consistent with actual operations that have been observed at the recently commissioned Calpine Los Medanos Energy Facility, which has an 83 MMBtu/hr duct burner. While this facility was initially permitted at 2.0 ppm including duct firing, it is understood that they will need to seek a variance for VOC emissions since actual operations demonstrate an emissions rate of 6 to 10 ppm. This facility is one of the first units to come on-line with duct firing and is considered to be more representative of emissions rates that are technically feasible under duct firing conditions as opposed to projects that may accepted these limits as part of their certification but are not operational.

The project is unwilling to consider a reduction in the heat duty of the duct burner, since the operation of the burner is required to support project economics. The applicant believes it is inappropriate for the CEC to suggest that the duct burner should be downsized in order to satisfy BACT, as this would compromise the project objectives.

Use of natural gas with an oxidation catalyst is the most stringent method for controlling VOC emissions. Since this is proposed for the project, further top down BACT is not warranted.



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**Technical Area: Air Quality**

**BACKGROUND**

The Applicant has indicated that the project meets all Best Available Control Technology Requirements; however, the Applicant is proposing a higher VOC (i.e., precursor organic compounds, reactive organic compounds) concentration during duct firing than is recommended by CARB Guidelines for Power Plants and than has been recently permitted for any other similar project. Additionally, a recent BACT determination by USEPA (please see attached letter) suggests that for 7F frame turbine combined-cycle plants, USEPA considers BACT for NO<sub>x</sub> to be 2.0 ppm (@15% O<sub>2</sub> 1-hour rolling average) and BACT, for CO to be 2.0 ppm (@ 15% O<sub>2</sub> 3-hour rolling average). The Applicant is currently proposing a NO<sub>x</sub> emission limit of 2.0 ppm (@15% O<sub>2</sub> 3-hour rolling average) and a CO emission limit of 6.0 ppm (@15% O<sub>2</sub> 3-hour rolling average). Staff needs additional information to identify whether the project will meet BACT for VOC, NO<sub>x</sub> and CO.

**Data Request 10:** Please identify if the project will be able to meet USEPA's anticipated BACT determination for NO<sub>x</sub> and CO emissions. Please identify if any additional control measures will be necessary to meet NO<sub>x</sub> and CO emission limits of 2.0 ppm (@ 15% O<sub>2</sub> 1-hour rolling average) and 2.0 ppm (@15% O<sub>2</sub> 3-hour rolling average), respectively; and please provide a cost benefit analysis of any such control measures.

**Response:** Upon further consideration and review of other recently commissioned gas turbines the project is willing to accept a revised CO BACT emission rate of 2.0 ppm (@ 15 % O<sub>2</sub>, 1-hour rolling average.

The current achieved in practice BACT for F-class turbines is 2.0 ppm NO<sub>x</sub> @ 15% O<sub>2</sub> over a 3-hour averaging period based on a 10 ppm ammonia slip. While other certified projects may have accepted limits based on 1-hour averaging time, none of these units are currently operational. Further, the MPP will be required to satisfy a stringent ammonia slip of 5 ppm. NO<sub>x</sub> and ammonia slip are inversely proportional, therefore in order to meet the ammonia limit of 5 ppm it is anticipated it may be difficult to meet 2 ppm on a 1-hour rolling average under transient conditions. However, the Applicant is willing



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to accept 2 ppm on a 1-hour rolling average under steady state operations.

In addition, the 1-hour averaging time will have no environmental advantage. Maximum hourly emissions during commissioning have been analyzed and show no exceedances of the California Ambient Air Quality Standard. The requested 1-hour averaging time for a BACT level of 2.0 ppm would not impact annual emissions because they are based on an average emission rate of 2.0 ppm. No changes in the NO<sub>2</sub> BACT are being considered to the control measures originally proposed in the AFC.



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**Technical Area: Air Quality**

**BACKGROUND**

The project will provide emission offsets for all criteria pollutants in accordance with the applicable rules and regulations of the SCAQMD. Since this project will be subject to the (SCAQMD) RECLAIM program, NO<sub>x</sub> and potentially SO<sub>x</sub> emissions will be offset utilizing RECLAIM Trading Credits (RTCs). Since RTCs are provided through a market-based system, the project will obtain NO<sub>x</sub> and potentially SO<sub>x</sub> RTCs through purchases of the necessary SCAQMD-certified emission credits on the RECLAIM RTC market. Emission offsets for ROG, PM<sub>10</sub>, CO, and potentially SO<sub>x</sub> will be provided through the acquisition of SCAQMD-certified Emission Reduction Credits (ERC) from the market-based ERC program. PM<sub>10</sub> and CO ERCs may be purchased through the District's priority reserve. Staff requires additional information regarding the status of the Applicant's offset package to adequately assess the effectiveness of the project's emission mitigation.

**Data Request 11:** Please provide documentation from the SCAQMD RECLAIM program for the total number of SCAQMD-certified emission credits available from the RECLAIM RTC market to offset NO<sub>x</sub> and SO<sub>x</sub> emissions.

**Response:** The Magnolia Power Project is not a RECLAIM source for SO<sub>x</sub> emissions. The offset requirement for this pollutant will be discussed in the MPP response to Data Request 14.

Attachment DR11-1 presents documentation indicating the availability of 90,000 lbs/year of NO<sub>x</sub> RECLAIM Trading Credits (RTC) for the year 2004 and 122,000 lbs/yr for years 2005-2010+. At this time, SCPPA has entered into a purchase agreement for the purchase of 90,000 lbs/yr of year 2004 RTCs and 32,000 lbs/yr of year 2005 RTCs (for a total of 122,000 lbs/yr for the first year of operation). SCPPA is negotiating options to purchase an additional 90,000 lbs/yr of year 2005 RTCs and 122,000 lbs/yr of 2006-2010+ RTCs with payment due upon project funding.



**Attachment DR 11-1**

**NO<sub>x</sub> RTC Purchase Agreements**



**Regional Clean Air Incentives Market Trading Account and Representative Registration Form**  
**Purpose of This Form - This form is used to identify the authorized account representative(s) for an RTC holder.**

**Section I. Company Information**

Company Name Southern California Public Power Authority

Company Street Address

Mailing Address for Transaction Confirmations  
(If different from Company street address)

225 S. Lake Avenue

Street #1

Street #1, or P.O. Box

Suite 1410

Street #2

Street #2

Pasadena, CA

91101

City, State

Zip

City, State

Zip

**Section II. Designation of Representatives**

Bruce E. Blowey

Licensing Manager

Name

Title

(661) 252 - 6908

(661) 252 - 5109

Phone #

Fax #

Steven L. Homer

Project Administrator

Name

Title

(626) 793 - 9364

(626) 793 - 9461

Phone #

Fax #

Bill Carnahan

Executive Director

Name

Title

(626) 793 - 9364

(626) 793 - 9461

Phone #

Fax #

Bruce E. Blowey  
Signature

10/26/01  
Date

Steven L. Homer  
Signature

10-29-01  
Date

Bill Carnahan  
Signature

10/29/01  
Date

**Section III. Identification**

Do you hold a District permit? Yes ☐ or No ☒

If yes, please complete the following:

Facility ID # \_\_\_\_\_ as shown on your RECLAIM Transaction Card or District permits. If you do not know your facility ID #, enter the number of one of your permits \_\_\_\_\_.

If no, the District will assign you an ID # \_\_\_\_\_. This number shall be used on all subsequent transaction forms.  
(For District Use Only)

**Section IV. Certification of Owners or Officers**

I certify that I am an owner or officer of the company identified herein and authorize the above parties to act as the company's representative in the registration of any transactions for RTCs for the Facility identified herein. I am authorized to make this submission on behalf of the persons with an ownership interest for whom this submission is made.

I certify that the statements and information are true, accurate, and complete to the best of my knowledge.

Bill Carnahan

Executive Director

(626) 793 - 9364

Name

Title

Telephone

Bill Carnahan  
Signature

10/29/01  
Date

Name

Title

( )  
Telephone

Signature

Date

This form and SCAQMD's use shall not constitute any acceptance of liability on behalf of SCAQMD for any RTC transaction which may be the result of misrepresentation or error by trading partners or their representatives. This form and SCAQMD's use of it shall not be construed, in any way, to create a fiduciary relationship with either the seller or buyer of RTCs or with any other party associated with such transactions.

Submit this form to:

**SCAQMD, RECLAIM Administration - RTC Transfers, P.O. Box 4830, Diamond Bar, CA 91765-0830**





**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**  
**Regional Clean Air Incentives Market Trading Credits (RTCs) Transaction Registration**  
**Form 2007-2**

Name of Buyer/Transferee Southern California Public Power Authority Account ID# \_\_\_\_\_

Name of Seller/Transferor Canter Fitzgerald Account ID# 700004

Pollutant: NOx ☒ or SOx \_\_\_\_\_ (Identify one pollutant only)

(Attach a separate form if more than 10 transfers are being registered)

06/2005	Coastal	90,000		NA	B	Reg XX	NA
06/2006	Coastal	32,000		NA	B	Reg XX	NA
/							
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<b>Buyers:</b> <b>Use Codes (only one code per transaction)</b> 01 Increase RTC Allocation account balance to satisfy annual compliance 02 Use under Rule 2006 - New Source Review for RECLAIM 03 Increase RTC certificate account balance without issuance of physical certificate 04 Increase RTC certificate account balance with issuance of physical certificate 05 Retire RTCs from market without issuance of physical certificate 06 Retire RTCs from market with issuance of physical certificate 07 Facility Acquisition (Change of Ownership)  <b>NOTE: Certificate account balances must be converted to Allocation balances to be eligible for compliance use.</b>	<b>Sellers:</b> <b>Generation Codes</b> 01* Process Change 02* Addition of Control Equipment 03* Production Decrease 04* Equipment or Facility Shutdown 06 Facility Acquisition (Change of Ownership) 07 RTCs for Future Compliance Year, cause of generation not yet been determined  <i>* Retraction of this Generation Code must be accompanied by the submission of Account Source Code "A" - Allocation Account</i>	<b>Account Source Code</b> <b>(only one code per transaction)</b> A Allocation Account B** Certificate Account C** Printed Certificate (must list Certificate Serial number and attach certificate to this form) ** This Account Source Code may be selected without providing a Generation Code.  <b>Origin of Credits:</b> State Rule Number from which the credits were originally issued (e.g. Reg XX, R1631, R2506, etc.)
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Answer the following Questions for Seller/Transferor:

- |  |  |
|--|--|
| <b>A. Is this transaction part of a pooled transactions/ market?</b><br><input type="checkbox"/> Yes → Attach Form 2007-3 to identify participants (Part A Only)<br><input type="checkbox"/> No → Go to Question B | <b>B. Is seller an agent for the owner of RTC ?</b><br><input type="checkbox"/> Yes → Attach Form 2007-3 to identify Owner of RTC (Part B Only)<br><input type="checkbox"/> No → Complete this form only |
|--|--|

Date when this transaction was agreed upon (trading transaction date): 10/23/01 → Attach purchase agreement or transaction confirmation

I certify that I am authorized to make this submission on behalf of the affected registered holders of the RTCs listed herein. I certify that the statements are true, accurate, and complete to the best of my knowledge.

Bruce E. Blowey  
 Authorized Representative of Buyer/Transferee (Print Name)

Joshua Margolis  
 Authorized Representative of Seller/Transferor (Print Name)

Bruce E. Blowey 10/26/01  
 Signature Date

\_\_\_\_\_  
 Signature Date

When RTCs are transferred from an Allocation, the debit shall result in an automatic amendment to the RTC Listing.

Submit this form and required documents with Transaction Registration Fee pursuant to Rule 301 to  
**SCAQMD, RECLAIM Administration - RTC Transfers, P.O. 4830, Diamond Bar, CA 91765-0830**



# AGREEMENT FOR PURCHASE AND SALE OF RECLAIM TRADING CREDITS

THIS AGREEMENT is made by and between Medallion California Properties Company, a Texas Corporation ("Seller"), and Southern California Public Power Authority, a Joint Powers Authority ("Buyer").

WHEREAS, Seller is the owner of the following RECLAIM Trading Credits which are defined in and governed by Regulation XX of the South Coast Air Quality Management District (the "SCAQMD"):

- 90,000 Cycle 2 Zone Coastal Vintage 2004 NOx RTCs (expiration 6/30/2005)
- 32,000 Cycle 2 Zone Coastal Vintage 2005 NOx RTCs (expiration 6/30/2006)

These RTCs shall be defined as Lot 1 RTCs.

WHEREAS, Seller is also the owner of the following RECLAIM Trading Credits which are defined in and governed by Regulation XX of the South Coast Air Quality Management District (the "SCAQMD"):

- 58,000 Cycle 2 Zone Coastal Vintage 2005 NOx RTCs (expiration 6/30/2006)
- 90,000 Cycle 2 Zone Coastal Vintage 2006 NOx RTCs (expiration 6/30/2007)
- 90,000 Cycle 2 Zone Coastal Vintage 2007 NOx RTCs (expiration 6/30/2008)
- 90,000 Cycle 2 Zone Coastal Vintage 2008 NOx RTCs (expiration 6/30/2009)
- 90,000 Cycle 2 Zone Coastal Vintage 2009 NOx RTCs (expiration 6/30/2010)
- 90,000 Cycle 2 Zone Coastal Vintage 2010 NOx RTCs (expiration 6/30/2011)
- 90,000 Cycle 2 Zone Coastal all years after Vintage 2010 NOx RTCs

These RTCs shall be defined as Lot 2 RTCs.

WHEREAS, Buyer desires to purchase and Seller desires to sell the Lot 1 RTCs and, Lot 2 RTCs subject to the terms and conditions set forth herein.

AND WHEREAS, both parties desire to fully consummate this purchase and sale, and cause transfer of the Lot 1 RTCs and Lot 2 RTCs per the terms of this Agreement.

1. **Lot 1 RTC Purchase and Sale.** Seller agrees to sell to Buyer, and Buyer agrees to purchase from Seller the Lot 1 RTCs, subject to the terms and conditions set forth herein.

2. **Lot 1 RTC Transfer of Ownership.** Immediately upon Seller's receipt of the payment referred to in Section 3 below, Seller shall grant the Lot 1 RTCs to Buyer and the Lot 1 RTCs shall become the sole property and entitlement of Buyer. Upon the payment of monies provided for in Section 3 below of this Agreement and upon Buyer's receipt of documentation evidencing that the Lot 1 RTCs have been transferred to Buyer, Buyer shall have no recourse against Seller in the event of change of law governing the Lot 1 RTCs.

3. **Lot 1 RTC Purchase Price.** The Lot 1 RTC Purchase Price for the Lot 1 RTCs is \$8.00 per NOx RTC, or a total of \$976,000.00, and is calculated by multiplying 90,000 Cycle 2 Zone Coastal Vintage 2004 NOx RTCs and 32,000 Cycle 2 Zone Coastal Vintage 2005 NOx RTCs by \$8.00 per NOx RTC.

4. **Lot 1 RTC Purchase Price Payment.** Within four business days following receipt of a fully signed copy of this agreement: (a) Buyer shall wire to Cantor Fitzgerald Brokerage, LP ("CF") the Lot 1 RTC Purchase Price and Buyer's portion of CF's commission as specified on Buyer's transaction confirmation; (b) Seller shall deliver the completed RTC



transfer paperwork to CF that provides for the transfer of the Lot 1 RTCs from Seller to CF ("Seller Lot 1 RTC Transfer Paperwork"); and (c) Buyer shall deliver the completed RTC transfer paperwork to CF that provides for the transfer of the Lot 1 RTCs from CF to Buyer (Buyer Lot 1 RTC Transfer Paperwork"). By executing this Agreement, and provided that CF is in receipt of the Lot 1 RTC purchase price, Buyer and Seller direct CF to, within five business days following receipt of a fully signed copy of this Agreement, file the Buyer Lot 1 RTC Transfer Paperwork with the SCAQMD. In the event that at any time prior to the issuance by SCAQMD of the documentation that evidences the transfer of the Lot 1 RTCs from Seller to Buyer, the Lot 1 RTCs cease, for any reason, including any change in legislation or the SCAQMD Rules, beyond the reasonable control of the parties, to be Lot 1 RTCs tradable in accordance with the SCAQMD Rules as they exist as of the date of this Agreement, then Buyer may terminate this Agreement without any liability or obligation to any party.

5. **Lot 2 RTC Purchase and Sale.** Buyer shall diligently seek to obtain, on or before May 1, 2002 (i) all necessary approvals of Buyer's Magnolia Power Project from the California Energy Commission and other necessary regulatory entities, and (ii) necessary funding for Buyer's Magnolia Power Project ("Necessary Approvals and Financing"). Subject to Buyer's receipt of Necessary Approvals and Financing, Seller shall sell to Buyer, and Buyer shall purchase from Seller the Lot 2 RTCs, it being expressly agreed that Buyer's receipt of Necessary Approvals and Financing is a condition precedent to Buyer's obligation to purchase the Lot 2 RTCs. If Buyer does not notify Seller on or before May 1, 2002 that Buyer has obtained Necessary Approvals and Financing, then Seller may, at Seller's option, upon written notice to Buyer, either (i) terminate this Agreement with respect to the Lot 2 RTCs, in which event neither party shall have any further obligation to the other party with respect to the Lot 2 RTCs, or be liable for damages in connection therewith, or (ii) grant Buyer one or more extensions, to a date or dates no later than May 1, 2003, to obtain the Necessary Approvals and Financing. (C)

6. **Lot 2 RTC Transfer of Ownership.** Immediately upon Seller's receipt of the payment referred to in Section 7 below, shall grant the Lot 2 RTCs to Buyer and the Lot 2 RTCs shall become the sole property and entitlement of Buyer. Upon the payment of monies provided for in Section 7 below of this Agreement and upon Buyer's receipt of documentation evidencing that the Lot 2 RTCs have been transferred to Buyer, Buyer shall have no recourse against Seller in the event of change of law governing the Lot 2 RTCs or for any other reason.

7. **Lot 2 RTC Purchase Price.** The Purchase Price for the Lot 2 RTCs is \$8.00 per RTC for vintage 2005, 2006, 2007, 2008, 2009, and 2010. The Purchase Price for the RTCs from all years after 2010 is \$720,000. The Total Purchase Price shall be \$4,784,000.00.

8. **Lot 2 RTC Purchase Price Payment.** No later than November 2, 2001, Seller shall deliver the completed RTC transfer paperwork to CF that provides for the transfer of the Lot 2 RTCs from Seller to CF ("Seller Lot 2 RTC Transfer Paperwork"). Within 10 days following Buyer's Magnolia Power Project receipt of necessary approvals from the California Energy Commission and other necessary regulatory entities and necessary funding, providing such approval and funding occurs on or prior to May 1, 2002, Buyer shall: (a) provide notice of

October 31, 2001



such to Seller and CF; (b) wire to CF the Total Purchase Price per CF's instructions; and (c) deliver the completed RTC transfer paperwork to CF that provides for the transfer of the Lot 2 RTCs from CF to Buyer ("Buyer Lot 2 RTC Transfer Paperwork"). By executing this Agreement, Buyer and Seller direct CF to, upon receipt of the Total Purchase Price: (a) wire the Total Purchase Price, less Seller's portion of CF's commission, to Seller; and (b) file Buyer Lot 2 RTC Transfer Paperwork necessary to transfer the Lot 2 RTCs from CF to Buyer. In the event that at any time prior to the issuance by SCAQMD of the documentation that evidences the transfer of the Lot 2 RTCs from Seller or CF to Buyer, the Lot 2 RTCs cease, for any reason, including any change in legislation or the SCAQMD Rules, to be NOx RTCs tradable in accordance with the SCAQMD Rules as they exist as of the date of this Agreement, then Buyer may terminate this Agreement without any liability or obligation to any party.

9. **Brokerage.** Buyer and Seller agree to pay CF's Clean Air Auction fee as stipulated in their respective transaction confirmations and to pay such fees upon receipt of an invoice from CF. Buyer represents and warrants to Seller, and Seller represents and warrants to Buyer that, aside from CF, no broker or finder has been engaged by it, respectively, in connection with this Agreement. Each party shall indemnify and hold harmless the other from all damages resulting from any claims that may be asserted against the other party by any broker, finder, or other person with whom the indemnifying party has dealt.

10. **Warranty.** Seller warrants that Seller is the sole owner of record of the Lot 1 RTCs and Lot 2 RTCs and that such Lot 1 RTCs and Lot 2 RTCs will be transferred to Buyer free and clear of all encumbrances. Seller, moreover, has all necessary approvals to sell the Lot 1 RTCs and Lot 2 RTCs to Buyer.

11. **Counterparts.** This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original and all of which shall constitute the same instrument, and may be executed by facsimile copy.

12. **Additional Documents.** At the request of either party, the other party shall use reasonable commercial efforts to execute and deliver such additional documents and do such other acts as may be necessary to carry out the full intent and purpose of this Agreement.

13. **Notice.** All notices and other communications in connection with this Agreement shall be sent via overnight courier or facsimile to the following addresses: (a) For Buyer: Southern California Public Power Authority, 225 South Lake Ave., Suite 1410, Pasadena, CA 91101, Attention: Bruce E. Blowey, Telephone No.: 661-252-6908, Facsimile No.: 661-252-5109; For Seller: Medallion California Properties Company, 7130 South Lewis Avenue, Tulsa, Oklahoma 74135, Attention: Chris Jacobson, Telephone No.: 918-488-8283, Facsimile No.: 918-499-1331; with a copy to Cantor Fitzgerald Brokerage, L.P., Environmental Brokerage Services, 345 California Street, Suite 1260, San Francisco, CA 94104, Attention: Robin Langdon, Telephone No.: 800-228-2955, Facsimile No.: 415-296-9582.

14. **Entirety.** This Agreement sets forth the entire agreement of the parties with

October 31, 2001



respect to the matters contained herein and all prior understandings, negotiations, and agreements with respect to same are merged herein.

15. **Assignees.** Buyer and Seller may assign their rights, duties and obligations pursuant to this Agreement. The party assigning its rights to another must notify the other party in writing of such transfer of rights, duties, and obligations prior to the completion of the final transaction of this Agreement.

16. Applicable Law. THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF CALIFORNIA.

Executed as of the date first above written.

By T Bruce E. Boway 10/31/01  
Southern California Public Power Authority, Buyer Date

By J. Chiswick 10/31/01  
Medallion California Resources, Seller Date  
Properties Company

October 31, 2001



**MAGNOLIA POWER PROJECT  
APPLICATION FOR CERTIFICATION  
RESPONSE TO CEC DATA REQUESTS  
01-AFC-06**

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**Technical Area: Air Quality**

**BACKGROUND**

The project will provide emission offsets for all criteria pollutants in accordance with the applicable rules and regulations of the SCAQMD. Since this project will be subject to the (SCAQMD) RECLAIM program, NO<sub>x</sub> and potentially SO<sub>x</sub> emissions will be offset utilizing RECLAIM Trading Credits (RTCs). Since RTCs are provided through a market-based system, the project will obtain NO<sub>x</sub> and potentially SO<sub>x</sub> RTCs through purchases of the necessary SCAQMD-certified emission credits on the RECLAIM RTC market. Emission offsets for ROG, PM<sub>10</sub>, CO, and potentially SO<sub>x</sub> will be provided through the acquisition of SCAQMD-certified Emission Reduction Credits (ERC) from the market-based ERC program. PM<sub>10</sub> and CO ERCs may be purchased through the District's priority reserve. Staff requires additional information regarding the status of the Applicant's offset package to adequately assess the effectiveness of the project's emission mitigation.

**Data Request 12:** The certificate of transfer to Southern California Public Power Authority (SCPPA) was not complete at the time of AFC submittal for all RTCs and ERCs. Please provide copies of any option contracts, surrendered RECLAIM trading credits or emission reduction credits.

**Response:** Attachment DR12-1 provides documentation of emission credit transfers for ROG emission reduction credits (ERCs) in the amount of 308 lbs/day, CO ERCs in the amount of 307 lbs/day, and NO<sub>x</sub> RTCs in the amount of 90,000 lbs/year for 2004 and 32,000 lbs/year for 2005.



## **Attachment DR 12-1**

**NO<sub>x</sub> RTC Purchase Agreements**

**CO and ROG Purchase Agreement**



**Regional Clean Air Incentives Market Trading Account and Representative Registration Form**  
**Purpose of This Form - This form is used to identify the authorized account representative(s) for an RTC holder.**

**Section I. Company Information**

Company Name Southern California Public Power Authority

Company Street Address

Mailing Address for Transaction Confirmations  
(If different from Company street address)

225 S. Lake Avenue

Street #1

Street #1, or P.O. Box

Suite 1410

Street #2

Street #2

Pasadena, CA

91101

City, State

Zip

City, State

Zip

**Section II. Designation of Representatives**

**Bruce E. Blowey**

**Licensing Manager**

Name

Title

Signature

Date

( 661 ) 252 - 6908

(661) 252 - 5109

Phone #

Fax #

**Steven L. Homer**

**Project Administrator**

Signature

Date

Name

Title

( 626 ) 793 - 9364

( 626 ) 793 - 9461

Phone #

Fax #

**Bill Carnahan**

**Executive Director**

Signature

Date

Name

Title

( 626 ) 793 - 9364

( 626 ) 793 - 9461

Phone #

Fax #

**Section III. Identification**

Do you hold a District permit? Yes ☐ or No ☒

If yes, please complete the following:

Facility ID # \_\_\_\_\_ as shown on your RECLAIM Transaction Card or District permits. If you do not know your facility ID #, enter the number of one of your permits \_\_\_\_\_.

If no, the District will assign you an ID # \_\_\_\_\_. This number shall be used on all subsequent transaction forms.

(For District Use Only)

**Section IV. Certification of Owners or Officers**

I certify that I am an owner or officer of the company identified herein and authorize the above parties to act as the company's representative in the registration of any transactions for RTCs for the Facility identified herein. I am authorized to make this submission on behalf of the persons with an ownership interest for whom this submission is made.

I certify that the statements and information are true, accurate, and complete to the best of my knowledge.

**Bill Carnahan**

**Executive Director**

( 626 ) 793 - 9364

Name

Title

Telephone

Signature

Date

Name

Title

Telephone

Signature

Date

This form and SCAQMD's use shall not constitute any acceptance of liability on behalf of SCAQMD for any RTC transaction which may be the result of misrepresentation or error by trading partners or their representatives. This form and SCAQMD's use of it shall not be construed, in any way, to create a fiduciary relationship with either the seller or buyer of RTCs or with any other party associated with such transactions.

Submit this form to:

**SCAQMD, RECLAIM Administration - RTC Transfers, P.O. Box 4830, Diamond Bar, CA 91765-0830**





**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**  
Regional Clean Air Incentives Market Trading Credits (RTCs) Transaction Registration

**Form 2007-2**

Name of Buyer/Transferee Southern California Public Power Authority Account ID# \_\_\_\_\_

Name of Seller/Transferor Cantor Fitzgerald Account ID# 708004

Pollutant: NOx X or SOx (Identify one pollutant only)

*(Attach a separate form if more than 10 transfers are being registered)*

06/2005	Coastal	90,000			NA	B	Reg XX	NA
06/2006	Coastal	32,000			NA	B	Reg XX	NA
/								
/								
/								
/								
/								
/								
/								

<p><b>Buyer:</b> Use Codes (only one code per transaction)</p> <p>01 Increase RTC Allocation account balance to satisfy annual compliance          2 Use under Rule 2006 - New Source Review for RECLAIM          03 Increase RTC certificate account balance without issuance of physical certificate          04 Increase RTC certificate account balance with issuance of physical certificate          05 Retire RTCs from market without issuance of physical certificate          06 Retire RTCs from market with issuance of physical certificate          07 Facility Acquisition (Change of Ownership)</p> <p><i>NOTE: Certificate account balances must be converted to Allocation balances to be eligible for compliance use.</i></p>	<p><b>Seller:</b> Generation Codes</p> <p>01* Process Change          02* Addition of Control Equipment          03* Production Decrease          04* Equipment or Facility Shutdown          06 Facility Acquisition (Change of Ownership)          07 RTCs for Future Compliance Year, cause of generation not yet been determined</p> <p>* Retention of this Generation Code must be accompanied by the submission of Account Source Code "A" - Allocation Account</p>	<p><b>Account Source Code</b> (only one code per transaction)</p> <p>A Allocation Account          B** Certificate Account          C** Printed Certificate          (must list Certificate Serial number and attach certificate to this form)</p> <p>** This Account Source Code may be released without providing a Generation Code.</p> <p>Origin of Credits:          State Rule Number from which the credits were originally issued (e.g. Reg XX, R1631, R2606, etc.)</p>
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Answer the following Questions for Seller/Transferor:

- A. Is this transaction part of a pooled transactions/ market?  
☐ Yes → Attach Form 2007-3 to Identify participants (Part A Only)  
☐ No → Go to Question B
- B. Is seller an agent for the owner of RTC?  
☐ Yes → Attach Form 2007-3 to identify Owner of RTC (Part B Only)  
☐ No → Complete this form only

Date when this transaction was agreed upon (trading transaction date): 10/23/01 → Attach purchase agreement or transaction confirmation

I certify that I am authorized to make this submission on behalf of the affected registered holders of the RTCs listed herein. I certify that the statements are true, accurate, and complete to the best of my knowledge.

Bruce E. Blowey  
Authorized Representative of Buyer/Transferee (Print Name)

Joshua Margolis  
Authorized Representative of Seller/Transferor (Print Name)

Bruce E. Blowey  
Signature

10/26/01  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

*When RTCs are transferred from an Allocation, the debt shall result in an automatic amendment to the RTC Listing.*

Submit this form and required documents with Transaction Registration Fee pursuant to Rule 301 to  
**SCAQMD, RECLAIM Administration - RTC Transfers, P.O. 4830, Diamond Bar, CA 91765-0830**



## AGREEMENT FOR PURCHASE AND SALE OF RECLAIM TRADING CREDITS

THIS AGREEMENT is made by and between Medallion California Properties Company, a Texas Corporation ("Seller"), and Southern California Public Power Authority, a Joint Powers Authority ("Buyer").

WHEREAS, Seller is the owner of the following RECLAIM Trading Credits which are defined in and governed by Regulation XX of the South Coast Air Quality Management District (the "SCAQMD"):

- 90,000 Cycle 2 Zone Coastal Vintage 2004 NOx RTCs (expiration 6/30/2005)
- 32,000 Cycle 2 Zone Coastal Vintage 2005 NOx RTCs (expiration 6/30/2006)

These RTCs shall be defined as Lot 1 RTCs.

WHEREAS, Seller is also the owner of the following RECLAIM Trading Credits which are defined in and governed by Regulation XX of the South Coast Air Quality Management District (the "SCAQMD"):

- 58,000 Cycle 2 Zone Coastal Vintage 2005 NOx RTCs (expiration 6/30/2006)
- 90,000 Cycle 2 Zone Coastal Vintage 2006 NOx RTCs (expiration 6/30/2007)
- 90,000 Cycle 2 Zone Coastal Vintage 2007 NOx RTCs (expiration 6/30/2008)
- 90,000 Cycle 2 Zone Coastal Vintage 2008 NOx RTCs (expiration 6/30/2009)
- 90,000 Cycle 2 Zone Coastal Vintage 2009 NOx RTCs (expiration 6/30/2010)
- 90,000 Cycle 2 Zone Coastal Vintage 2010 NOx RTCs (expiration 6/30/2011)
- 90,000 Cycle 2 Zone Coastal all years after Vintage 2010 NOx RTCs

These RTCs shall be defined as Lot 2 RTCs.

WHEREAS, Buyer desires to purchase and Seller desires to sell the Lot 1 RTCs and, Lot 2 RTCs subject to the terms and conditions set forth herein.

AND WHEREAS, both parties desire to fully consummate this purchase and sale, and cause transfer of the Lot 1 RTCs and Lot 2 RTCs per the terms of this Agreement.

1. **Lot 1 RTC Purchase and Sale.** Seller agrees to sell to Buyer, and Buyer agrees to purchase from Seller the Lot 1 RTCs, subject to the terms and conditions set forth herein.

2. **Lot 1 RTC Transfer of Ownership.** Immediately upon Seller's receipt of the payment referred to in Section 3 below, Seller shall grant the Lot 1 RTCs to Buyer and the Lot 1 RTCs shall become the sole property and entitlement of Buyer. Upon the payment of monies provided for in Section 3 below of this Agreement and upon Buyer's receipt of documentation evidencing that the Lot 1 RTCs have been transferred to Buyer, Buyer shall have no recourse against Seller in the event of change of law governing the Lot 1 RTCs.

3. **Lot 1 RTC Purchase Price.** The Lot 1 RTC Purchase Price for the Lot 1 RTCs is [REDACTED] per NOx RTC, or a total of [REDACTED], and is calculated by multiplying 90,000 Cycle 2 Zone Coastal Vintage 2004 NOx RTCs and 32,000 Cycle 2 Zone Coastal Vintage 2005 NOx RTCs by [REDACTED] per NOx RTC.

4. **Lot 1 RTC Purchase Price Payment.** Within four business days following receipt of a fully signed copy of this agreement: (a) Buyer shall wire to Cantor Fitzgerald Brokerage, LP ("CF") the Lot 1 RTC Purchase Price and Buyer's portion of CF's commission as specified on Buyer's transaction confirmation; (b) Seller shall deliver the completed RTC transfer paperwork to CF that provides for the transfer of the Lot 1 RTCs from Seller to CF ("Seller Lot 1



RTC Transfer Paperwork"); and (c) Buyer shall deliver the completed RTC transfer paperwork to CF that provides for the transfer of the Lot 1 RTCs from CF to Buyer (Buyer Lot 1 RTC Transfer Paperwork"). By executing this Agreement, and provided that CF is in receipt of the Lot 1 RTC purchase price, Buyer and Seller direct CF to, within five business days following receipt of a fully signed copy of this Agreement, file the Buyer Lot 1 RTC Transfer Paperwork with the SCAQMD. In the event that at any time prior to the issuance by SCAQMD of the documentation that evidences the transfer of the Lot 1 RTCs from Seller to Buyer, the Lot 1 RTCs cease, for any reason, including any change in legislation or the SCAQMD Rules, beyond the reasonable control of the parties, to be Lot 1 RTCs tradable in accordance with the SCAQMD Rules as they exist as of the date of this Agreement, then Buyer may terminate this Agreement without any liability or obligation to any party.

5. **Lot 2 RTC Purchase and Sale.** Seller shall sell to Buyer, and Buyer shall purchase from Seller the Lot 2 RTCs if Buyer's Magnolia Power Project receives necessary approvals from the California Energy Commission and other necessary regulatory entities and necessary funding on or by May 1, 2002. If Buyer fails to receive necessary approvals from the California Energy Commission and other necessary regulatory entities and necessary funding on or by May 1, 2002, Seller or Buyer may elect in writing to terminate this Agreement with respect to the Lot 2 RTCs without penalty or further obligation.

6. **Lot 2 RTC Transfer of Ownership.** Immediately upon Seller's receipt of the payment referred to in Section 7 below, shall grant the Lot 2 RTCs to Buyer and the Lot 2 RTCs shall become the sole property and entitlement of Buyer. Upon the payment of monies provided for in Section 7 below of this Agreement and upon Buyer's receipt of documentation evidencing that the Lot 2 RTCs have been transferred to Buyer, Buyer shall have no recourse against Seller in the event of change of law governing the Lot 2 RTCs or for any other reason.

7. **Lot 2 RTC Purchase Price.** The Purchase Price for the Lot 2 RTCs is \$8.00 per RTC for vintage 2005, 2006, 2007, 2008, 2009, and 2010. The Purchase Price for the RTCs from all years after 2010 is [REDACTED]. The Total Purchase Price shall be [REDACTED].

8. **Lot 2 RTC Purchase Price Payment.** No later than October 31, 2001, Seller shall deliver the completed RTC transfer paperwork to CF that provides for the transfer of the Lot 2 RTCs from Seller to CF ("Seller Lot 2 RTC Transfer Paperwork"). Within 10 days following Buyer's Magnolia Power Project receipt of necessary approvals from the California Energy Commission and other necessary regulatory entities and necessary funding, providing such approval and funding occurs on or prior to May 1, 2002, Buyer shall: (a) provide notice of such to Seller and CF; (b) wire to CF the Total Purchase Price per CF's instructions; and (c) deliver the completed RTC transfer paperwork to CF that provides for the transfer of the Lot 2 RTCs from CF to Buyer ("Buyer Lot 2 RTC Transfer Paperwork"). By executing this Agreement, Buyer and Seller direct CF to, upon receipt of the Total Purchase Price: (a) wire the Total Purchase Price, less Seller's portion of CF's commission, to Seller; and (b) file Buyer Lot 2 RTC Transfer Paperwork necessary to transfer the Lot 2 RTCs from CF to Buyer. In the event that at any time prior to the issuance by SCAQMD of the documentation that evidences the transfer of the Lot 2



RTCs from Seller or CF to Buyer, the Lot 2 RTCs cease, for any reason, including any change in legislation or the SCAQMD Rules, to be NOx RTCs tradable in accordance with the SCAQMD Rules as they exist as of the date of this Agreement, then Buyer may terminate this Agreement without any liability or obligation to any party.

9. **Brokerage.** Buyer and Seller agree to pay CF's Clean Air Auction fee as stipulated in their respective transaction confirmations and to pay such fees upon receipt of an invoice from CF. Buyer represents and warrants to Seller, and Seller represents and warrants to Buyer that, aside from CF, no broker or finder has been engaged by it, respectively, in connection with this Agreement. Each party shall indemnify and hold harmless the other from all damages resulting from any claims that may be asserted against the other party by any broker, finder, or other person with whom the indemnifying party has dealt.

10. **Warranty.** Seller warrants that Seller is the sole owner of record of the Lot 1 RTCs and Lot 2 RTCs and that such Lot 1 RTCs and Lot 2 RTCs will be transferred to Buyer free and clear of all encumbrances. Seller, moreover, has all necessary approvals to sell the Lot 1 RTCs and Lot 2 RTCs to Buyer.

11. **Counterparts.** This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original and all of which shall constitute the same instrument, and may be executed by facsimile copy.

12. **Additional Documents.** At the request of either party, the other party shall use reasonable commercial efforts to execute and deliver such additional documents and do such other acts as may be necessary to carry out the full intent and purpose of this Agreement.

13. **Notice.** All notices and other communications in connection with this Agreement shall be sent via overnight courier or facsimile to the following addresses: (a) For Buyer: Southern California Public Power Authority, 225 South Lake Ave., Suite 1410, Pasadena, CA 91101, Attention: Bruce E. Blowsy, Telephone No.: 661-252-6908, Facsimile No.: 661-252-5109; For Seller: Medallion California Properties Company, 7130 South Lewis Avenue, Tulsa, Oklahoma 74135, Attention: Chris Jacobson, Telephone No.: 918-488-8283, Facsimile No.: 918-499-1331; with a copy to Cantor Fitzgerald Brokerage, L.P., Environmental Brokerage Services, 345 California Street, Suite 1260, San Francisco, CA 94104, Attention: Robin Langdon, Telephone No.: 800-228-2955, Facsimile No.: 415-296-9582.

14. **Entirety.** This Agreement sets forth the entire agreement of the parties with respect to the matters contained herein and all prior understandings, negotiations, and agreements with respect to same are merged herein.

15. **Assignment.** Buyer and Seller may assign their rights, duties and obligations pursuant to this Agreement. The party assigning its rights to another must notify the other party in writing of such transfer of rights, duties, and obligations prior to the completion of the final transaction of this Agreement.



16. Applicable Law. THIS AGREEMENT SHALL BE GOVERNED BY AND  
CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF  
CALIFORNIA.

Executed as of the date first above written.

By Bruce E. Blaney 10/29/01  
Southern California Public Power Authority, Buyer Date

By \_\_\_\_\_  
Medallion California Resources, Seller Date

October 29, 2001





October 26, 2001

Mr. Phil Barroca  
South Coast Air Quality Management District  
21865 E. Copley Drive  
Diamond Bar, California 91765-4182

**ROG ERC Purchase/Cantor Fitzgerald**  
**Acting on Behalf of Southern California Public Power**  
**Authority**

Dear Mr. Barroca:

Please accept this package to transfer a total of 185 pounds per day (lbs/day) of National Offsets's ROG ERCs from ERC Certificate Number AQ004002 to Southern California Public Power Authority.

Please note that Cantor Fitzgerald is hereby authorized to act on behalf of Southern California Public Power Authority in the processing of this ERC transfer. Please provide to Cantor Fitzgerald a receipt acknowledging your acceptance to this transfer package.

Thank you for your timely response to our ERC transfer request. If any questions arise, please feel free to call me at 661-252-6908.

Sincerely,

SOUTHERN CALIFORNIA PUBLIC POWER  
AUTHORITY

Bruce E. Blowey  
Licensing Manager

cc: Robin Langdon, Vice President, Cantor Fitzgerald EBS  
Fredric Fletcher, Assistant General Manager, Burbank Water and Power  
Thomas Umenhofer, Principal, ENTRIX  
Ron Maxwell, Project Manager, Bibb and Associates



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
APPLICATION FOR EMISSION REDUCTION CREDIT (ERC) CERTIFICATE OF TITLE  
FORM 401**

ERC APPLICATION TYPE: ☐ NEW ☒ X CHANGE OF TITLE ☐ ALTERATION ☐ INTER-DISTRICT ☐ INTERPOLLUTANT

**NEW ERC INFORMATION ONLY**

EMISSION REDUCTION OBTAINED BY: ☐ Equipment Alteration ☐ Equipment Removal ☐ Mobile Source  
☐ Facility Out of Business ☐ New APC Device ☐ Process Change ☐ Other, Explain: \_\_\_\_\_

EQUIPMENT DESCRIPTION: \_\_\_\_\_ PERMIT/APPLICATION NO.: \_\_\_\_\_  
DATE OF REDUCTION (mo/day/year):   1   /   1   /       

**CHANGE OF TITLE, ALTERATION, INTER-DISTRICT or INTERPOLLUTANT TRANSFER**

NAME AS IT APPEARS ON ERC CERTIFICATE: **National Offsets**

ERC CERTIFICATE NO.: AQ004002	ROG	NOx	SOx	CO	PM10
EXISTING EMITTANT AMOUNT (lbs/day)	185				
ALTERED AMOUNT (lbs/day) (Alteration Only)					
REMAINING AMOUNT (lbs/day) (Alteration Only)					

**FACILITY INFORMATION**

LEGAL NAME OF APPLICANT: **Southern California Public Power Authority** COMPANY ID NO. \_\_\_\_\_ ☐ IRS OR ☐ SOCIAL SECURITY NO. \_\_\_\_\_

EMISSION REDUCTION LOCATION: ADDRESS & STREET: **Various Locations in SCAQMD**  
(WHERE ERC WAS CREATED) CITY: **Vernon** STATE: **CA** ZIP CODE: **90058**

BUSINESS MAILING ADDRESS ADDRESS & STREET: \_\_\_\_\_  
OF APPLICANT: CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_

LOCATION WHERE ERC WILL BE USED ADDRESS & STREET: \_\_\_\_\_  
FOR OFFSET (IF KNOWN) or TRANSFERRED: CITY: \_\_\_\_\_ STATE: **CA** ZIP CODE: \_\_\_\_\_

NAME(S) OF OWNER/PRINCIPAL PARTNERS: \_\_\_\_\_

CONTACT PERSON AND TITLE: **Bruce E Blowey, Licensing Manager** TELEPHONE NO.: **(661) 252-6908**

DO YOU CLAIM CONFIDENTIALITY OF DATA? ☐ YES ☒ X NO If Yes, state nature of data: \_\_\_\_\_

I HEREBY CERTIFY, UNDER PENALTY OF PERJURY, THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION ARE TRUE AND CORRECT.

SIGNATURE: Bruce E. Blowey TITLE: Licensing Manager

TYPE OR PRINT NAME OF SIGNER: **Bruce E Blowey** TELEPHONE NO.: **(661) 252-6908** DATE: 10/26/01

<b>SCAQMD USE ONLY</b>	CO ID NO:	BCAT:	ENGR:		UNIT:
		CCAT:	TYPE: B C D	SCH/STEP:	STATUS:
VALIDATION:		FILING FEE:	DATE:	REGISTRATION NO:	
			APPLICATION NO:		



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
APPLICATION FOR EMISSION REDUCTION CREDIT (ERC) CERTIFICATE OF TITLE  
FORM 401**

ERC APPLICATION TYPE: ☐ NEW ☐ CHANGE OF TITLE ☒ ALTERATION ☐ INTER-DISTRICT ☐ INTERPOLLUTANT

**NEW ERC INFORMATION ONLY**

EMISSION REDUCTION OBTAINED BY: ☐ Equipment Alteration ☐ Equipment Removal ☐ Mobile Source  
☐ Facility Out of Business ☐ New APC Device ☐ Process Change ☐ Other, Explain:

EQUIPMENT DESCRIPTION: \_\_\_\_\_ PERMIT/APPLICATION NO.: \_\_\_\_\_  
DATE OF REDUCTION (mo/day/year): \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

**CHANGE OF TITLE, ALTERATION, INTER-DISTRICT or INTERPOLLUTANT TRANSFER**

NAME AS IT APPEARS ON ERC CERTIFICATE: **National Offsets**

ERC CERTIFICATE NO.: AQ004002	ROG	NOx	SOx	CO	PM10
EXISTING EMISSION AMOUNT (lbs/day)	260				
ALTERED AMOUNT (lbs/day) (Alteration Only)	185				
REMAINING AMOUNT (lbs/day) (Alteration Only)	18				

**FACILITY INFORMATION**

LEGAL NAME OF APPLICANT: \_\_\_\_\_ COMPANY ID NO. \_\_\_\_\_ ☐ IRS OR ☐ SOCIAL SECURITY NO. \_\_\_\_\_

**National Offsets**

EMISSION REDUCTION LOCATION: ADDRESS & STREET: **Various Locations in SCAQMD**  
(WHERE ERC WAS CREATED) CITY: **Vernon** STATE: **CA** ZIP CODE: **90058**

BUSINESS MAILING ADDRESS ADDRESS & STREET: **141 North Street**  
OF APPLICANT: CITY: **Pittsfield** STATE: **MA** ZIP CODE: **01201**

LOCATION WHERE ERC WILL BE USED ADDRESS & STREET: **N/A**  
FOR OFFSET (IF KNOWN) or TRANSFERRED: CITY: \_\_\_\_\_ STATE: **CA** ZIP CODE: \_\_\_\_\_

NAME(S) OF OWNER/PRINCIPAL PARTNERS:

CONTACT PERSON AND TITLE: **Jim Bellmore** TELEPHONE NO.: **(413) 442-0776**

DO YOU CLAIM CONFIDENTIALITY OF DATA? ☐ YES ☒ NO If Yes, state nature of data: \_\_\_\_\_

I HEREBY CERTIFY, UNDER PENALTY OF PERJURY, THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION ARE TRUE AND CORRECT.

SIGNATURE: *James Bellmore*

TITLE: *CONSULTANT*

TYPE OR PRINT NAME OF SIGNER: *James Bellmore*

TELEPHONE NO.: *413-442-0776* DATE: *10/24/01*



**AGREEMENT FOR PURCHASE AND SALE OF  
EMISSION REDUCTION CREDITS AND TRANSFER OF TITLE**

THIS AGREEMENT is made this 23rd day of October 2001 by and between National Offsets (SELLER) and Southern California Public Power Authority (BUYER). Through the Clean Air Auction, sponsored by Cantor Fitzgerald Brokerage, LP and subject to the terms and conditions included in the Clean Air Auction Representation Agreement executed by both parties, SELLER has sold to BUYER and BUYER has purchased from SELLER 185 pounds per day (lbs/day) of coastal zone reactive organic gases (ROG) emission reduction credits (ERCs) ("the ROG ERCs"), which are derived from ERC Certificate Number AQ004002 as issued by the South Coast Air Quality Management District ("SCAQMD") and defined by SCAQMD Regulation XIII. SELLER warrants the following: (a) SELLER is the sole owner of record of the ROG ERCs that will be transferred to BUYER free and clear of all encumbrances; and (b) SELLER has all necessary approvals to sell the ROG ERCs to BUYER. The Purchase Price for the ROG ERCs is [REDACTED] calculated at a rate of [REDACTED] per pound per day for the coastal zone ROG ERCs. After the ROG ERCs are transferred to BUYER, in the event that the SCAQMD provides written notification to the parties that the ROG ERCs were issued in error to SELLER by the SCAQMD, SELLER shall refund the Purchase Price to BUYER within 10 days of SELLER's receipt of such notification. This agreement can be signed in counterparts and by facsimile. This document transfers all right, title, and interest in the ROG ERCs from SELLER to BUYER. **THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF CALIFORNIA.**

Executed as of the date first above written.

By \_\_\_\_\_

For NATIONAL OFFSETS, Seller

Its \_\_\_\_\_

Date: \_\_\_\_\_

By Bruce E. Blouney

For SOUTHERN CALIFORNIA PUBLIC POWER  
AUTHORITY, Buyer

Its Licensing Manager

Date: 10/26/01

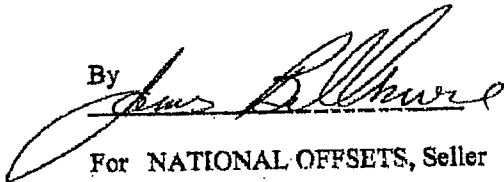


**AGREEMENT FOR PURCHASE AND SALE OF  
EMISSION REDUCTION CREDITS AND TRANSFER OF TITLE**

THIS AGREEMENT is made this 23rd day of October 2001 by and between National Offsets (SELLER) and Southern California Public Power Authority (BUYER). Through the Clean Air Auction, sponsored by Cantor Fitzgerald Brokerage, LP and subject to the terms and conditions included in the Clean Air Auction Representation Agreement executed by both parties, SELLER has sold to BUYER and BUYER has purchased from SELLER 185 pounds per day (lbs/day) of coastal zone reactive organic gases (ROG) emission reduction credits (ERCs) ("the ROG ERCs"), which are derived from ERC Certificate Number AQ004002 as issued by the South Coast Air Quality Management District ("SCAQMD") and defined by SCAQMD Regulation XIII. SELLER warrants the following: (a) SELLER is the sole owner of record of the ROG ERCs that will be transferred to BUYER free and clear of all encumbrances; and (b) SELLER has all necessary approvals to sell the ROG ERCs to BUYER. The Purchase Price for the ROG ERCs is [REDACTED] calculated at a rate of [REDACTED] per pound per day for the coastal zone ROG ERCs. After the ROG ERCs are transferred to BUYER, in the event that the SCAQMD provides written notification to the parties that the ROG ERCs were issued in error to SELLER by the SCAQMD, SELLER shall refund the Purchase Price to BUYER within 10 days of SELLER's receipt of such notification. This agreement can be signed in counterparts and by facsimile. This document transfers all right, title, and interest in the ROG ERCs from SELLER to BUYER. **THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF CALIFORNIA.**

Executed as of the date first above written.

By

  
For NATIONAL OFFSETS, Seller

Its

VP

Date:

10/24/01

By

\_\_\_\_\_  
For SOUTHERN CALIFORNIA PUBLIC POWER  
AUTHORITY, Buyer

Its

Date:



**MAGNOLIA**  
**POWER PROJECT**  
A SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY STUDY PROJECT



October 2<sup>nd</sup>, 2001

Mr. Phil Barroca  
South Coast Air Quality Management District  
21865 E. Copley Drive  
Diamond Bar, California 91765-4182

ROG ERC Purchase/Cantor Fitzgerald  
Acting on Behalf of Southern California Public Power  
Authority

Dear Mr. Barroca:

Please accept this package to transfer a total of 123 pounds per day (lbs/day) of EM-One Power Station, LLC's ROG ERCs from ERC Certificate Number AQ003730 to Southern California Public Power Authority.

Please note that Cantor Fitzgerald is hereby authorized to act on behalf of Southern California Public Power Authority in the processing of this ERC transfer. Please provide to Cantor Fitzgerald a receipt acknowledging your acceptance to this transfer package.

Thank you for your timely response to our ERC transfer request. If any questions arise, please feel free to call me at 661-252-6908.

Sincerely,

SOUTHERN CALIFORNIA PUBLIC POWER  
AUTHORITY

A handwritten signature in black ink that reads "Bruce E. Blowey".

Bruce E. Blowey  
Licensing Manager

cc: Robin Langdon, Vice President, Cantor Fitzgerald EBS  
Fredric Fletcher, Assistant General Manager, Burbank Water and Power  
Thomas Umenhofer, Principal, ENTRIX  
Ron Maxwell, Project Manager, Bibb and Associates



# SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT APPLICATION FOR EMISSION REDUCTION CREDIT (ERC) CERTIFICATE OF TITLE FORM 401

ERC APPLICATION TYPE: ☐ NEW ☐ CHANGE OF TITLE ☒ ALTERATION ☐ INTER-DISTRICT ☐ INTERPOLLUTANT

## NEW ERC INFORMATION ONLY

EMISSION REDUCTION OBTAINED BY: ☐ Equipment Alteration ☐ Equipment Removal ☐ Mobile Source  
☐ Facility Out of Business ☐ New APC Devices ☐ Process Change ☐ Other, Explain: \_\_\_\_\_

EQUIPMENT DESCRIPTION: \_\_\_\_\_ PERMIT/APPLICATION NO.: \_\_\_\_\_  
 DATE OF REDUCTION (mo/day/year): 1 / 1 /

## CHANGE OF TITLE, ALTERATION, INTER-DISTRICT or INTERPOLLUTANT TRANSFER

NAME AS IT APPEARS ON ERC CERTIFICATE: <b>EM-One Power Station, LLC</b>					
ERC CERTIFICATE NO.: formerly AQ003730	ROG	NOx	SOx	CO	PM10
EXISTING EMITTANT AMOUNT (lbs/day)	182				
ALTERED AMOUNT (lbs/day) (Alteration Only)	123				
REMAINING AMOUNT (lbs/day) (Alteration Only)	59				

## FACILITY INFORMATION

LEGAL NAME OF APPLICANT: COMPANY ID NO _____		____ IRS OR ____ SOCIAL SECURITY NO.	
<b>EM-One Power Station, LLC</b>			
EMISSION REDUCTION LOCATION: ADDRESS & STREET: <b>5440 Southern Ave.</b>			
(WHERE ERC WAS CREATED)	CITY: <b>South Gate</b>	STATE: <b>CA</b>	ZIP CODE: <b>90280</b>
BUSINESS MAILING ADDRESS: ADDRESS & STREET: <b>2045 East Vernon Ave</b>			
OF APPLICANT:	CITY: <b>Vernon</b>	STATE: <b>CA</b>	ZIP CODE: <b>90012</b>
LOCATION WHERE ERC WILL BE USED: ADDRESS & STREET: <b>N/A</b>			
FOR OFFSET (IF KNOWN) or TRANSFERRED: CITY:		STATE: <b>CA</b>	ZIP CODE:
NAME(S) OF OWNER/PRINCIPAL PARTNERS:			
CONTACT PERSON AND TITLE: <b>Mike Chapin</b>		TELEPHONE NO.: <b>323-233-2224</b>	
DO YOU CLAIM CONFIDENTIALITY OF DATA? <input type="checkbox"/> YES <input type="checkbox"/> NO If Yes, state nature of data: _____			

I HEREBY CERTIFY, UNDER PENALTY OF PERJURY, THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION ARE TRUE AND CORRECT.

SIGNATURE: Michael B. Martin TITLE: CFO  
 TYPE OR PRINT NAME OF SIGNER: MICHAEL B. MARTIN TELEPHONE NO.: 323-233-2224 DATE: 10/24/01



# SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

## APPLICATION FOR EMISSION REDUCTION CREDIT (ERC) CERTIFICATE OF TITLE

### FORM 401

ERC APPLICATION TYPE: ☐ NEW ☒ CHANGE OF TITLE ☐ ALTERATION ☐ INTER-DISTRICT ☐ INTERPOLLUTANT

#### NEW ERC INFORMATION ONLY

EMISSION REDUCTION OBTAINED BY: ☐ Equipment Alteration ☐ Equipment Removal ☐ Mobile Source  
☐ Facility Out of Business ☐ New APC Device ☐ Process Change ☐ Other, Explain: \_\_\_\_\_

EQUIPMENT DESCRIPTION: \_\_\_\_\_ PERMIT/APPLICATION NO.: \_\_\_\_\_  
 DATE OF REDUCTION (mo/day/year): \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

#### CHANGE OF TITLE, ALTERATION, INTER-DISTRICT or INTERPOLLUTANT TRANSFER

NAME AS IT APPEARS ON ERC CERTIFICATE: **EM-One Power Station, LLC**

ERC CERTIFICATE NO.: formerly AQ003730	ROG.	NOx	SOx	CO	PM10
EXISTING EMITTANT AMOUNT (lbs/day)	123				
ALTERED AMOUNT (lbs/day) (Alteration Only)					
REMAINING AMOUNT (lbs/day) (Alteration Only)					

#### FACILITY INFORMATION

LEGAL NAME OF APPLICANT: COMPANY ID NO \_\_\_\_\_ IRS OR SOCIAL SECURITY NO. \_\_\_\_\_  
**Southern California Public Power Authority**

EMISSION REDUCTION LOCATION: ADDRESS & STREET: **5440 Southern Avenue**  
 (WHERE ERC WAS CREATED) CITY: **South Gate** STATE: **CA** ZIP CODE: **90280**

BUSINESS MAILING ADDRESS ADDRESS & STREET: \_\_\_\_\_  
 OF APPLICANT: CITY: \_\_\_\_\_ STATE: **CA** ZIP CODE: \_\_\_\_\_

LOCATION WHERE ERC WILL BE USED ADDRESS & STREET: \_\_\_\_\_  
 FOR OFFSET (IF KNOWN) or TRANSFERRED. CITY: \_\_\_\_\_ STATE: **CA** ZIP CODE: \_\_\_\_\_

NAME(S) OF OWNER/PRINCIPAL PARTNERS: \_\_\_\_\_

CONTACT PERSON AND TITLE: **Bruce E. Blowey, Licensing Manager** TELEPHONE NO.: **661-252-6908**

DO YOU CLAIM CONFIDENTIALITY OF DATA? ☐ YES ☒ NO If Yes, state nature of data: \_\_\_\_\_

I HEREBY CERTIFY, UNDER PENALTY OF PERJURY, THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION ARE TRUE AND CORRECT.

SIGNATURE: Bruce E. Blowey TITLE: Licensing Manager

TYPE OR PRINT NAME OF SIGNER: **Bruce E. Blowey** TELEPHONE NO.: **661-252-6908** DATE: 10/26/01

SCAQMD USE ONLY	CO ID NO.:	BCAT: _____	ENGR: _____	UNIT: _____
		CCAT: _____ TYPE: <b>B C D</b>	SCH/STEP: _____	STATUS: _____

VALIDATION: \_\_\_\_\_ FILING FEE: \_\_\_\_\_ DATE: \_\_\_\_\_ APPLICATION NO.: \_\_\_\_\_ REGISTRATION NO.: \_\_\_\_\_



**AGREEMENT FOR PURCHASE AND SALE OF  
EMISSION REDUCTION CREDITS AND TRANSFER OF TITLE**

THIS AGREEMENT is made this 23rd day of October 2001 by and between EM-One Power Station, LLC (SELLER) and Southern California Public Power Authority (BUYER). Through the Clean Air Auction, sponsored by Cantor Fitzgerald Brokerage, LP and subject to the terms and conditions included in the Clean Air Auction Representation Agreement executed by both parties, SELLER has sold to BUYER and BUYER has purchased from SELLER 123 pounds per day (lbs/day) of coastal zone reactive organic gases (ROG) emission reduction credits (ERCs) ("the ROG ERCs"), which are derived from ERC Certificate Number AQ003730 as issued by the South Coast Air Quality Management District ("SCAQMD") and defined by SCAQMD Regulation XIII. SELLER warrants the following: (a) SELLER is the sole owner of record of the ROG ERCs that will be transferred to BUYER free and clear of all encumbrances; and (b) SELLER has all necessary approvals to sell the ROG ERCs to BUYER. The Purchase Price for the ROG ERCs is [REDACTED] calculated at a rate of [REDACTED] per pound per day for the coastal zone ROG ERCs. After the ROG ERCs are transferred to BUYER, in the event that the SCAQMD provides written notification to the parties that the ROG ERCs were issued in error to SELLER by the SCAQMD, SELLER shall refund the Purchase Price to BUYER within 10 days of SELLER's receipt of such notification. This agreement can be signed in counterparts and by facsimile. This document transfers all right, title, and interest in the ROG ERCs from SELLER to BUYER. **THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF CALIFORNIA.**

Executed as of the date first above written.

By Michael B. Mart

For EM-ONE POWER STATION, LLC, Seller

Its CF0

Date: 10/24/01

By Bruce E. Blouney

For SOUTHERN CALIFORNIA PUBLIC POWER  
AUTHORITY, Buyer

Its Licensing Manager

Date: 10/26/01





October 26, 2001

Mr. Phil Barroca  
South Coast Air Quality Management District  
21865 E. Copley Drive  
Diamond Bar, California 91765-4182

CO ERC Purchase/Cantor Fitzgerald  
Acting on Behalf of Southern California Public Power  
Authority

Dear Mr. Barroca:

Please accept this package to transfer a total of 307 pounds per day (lbs/day) of Aera Energy LLC's CO ERCs from former ERC Certificate Number AQ003604 to Southern California Public Power Authority.

Please note that Cantor Fitzgerald is hereby authorized to act on behalf of Southern California Public Power Authority in the processing of this ERC transfer. Please provide to Cantor Fitzgerald a receipt acknowledging your acceptance to this transfer package.

Thank you for your timely response to our ERC transfer request. If any questions arise, please feel free to call me at 661-252-6908.

Sincerely,

SOUTHERN CALIFORNIA PUBLIC POWER  
AUTHORITY

Bruce E. Blowey  
Licensing Manager

cc: Robin Langdon, Vice President, Cantor Fitzgerald EBS  
Fredric Fletcher, Assistant General Manager, Burbank Water and Power  
Thomas Umenhofer, Principal, ENTRIX  
Ron Maxwell, Project Manager, Bibb and Associates



# SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

## APPLICATION FOR EMISSION REDUCTION CREDIT (ERC) CERTIFICATE OF TITLE

### FORM 401

ERC APPLICATION TYPE: ☐ NEW ☒ CHANGE OF TITLE ☐ ALTERATION ☐ INTER-DISTRICT ☐ INTERPOLLUTANT

#### NEW ERC INFORMATION ONLY

EMISSION REDUCTION OBTAINED BY: ☐ Equipment Alteration ☐ Equipment Removal ☐ Mobile Source  
☐ Facility Out of Business ☐ New APC Device ☐ Process Change ☐ Other, Explain: \_\_\_\_\_

EQUIPMENT DESCRIPTION: \_\_\_\_\_ PERMIT/APPLICATION NO.: \_\_\_\_\_  
 DATE OF REDUCTION (mo/day/year): \_\_\_\_/\_\_\_\_/\_\_\_\_

#### CHANGE OF TITLE, ALTERATION, INTER-DISTRICT or INTERPOLLUTANT TRANSFER

NAME AS IT APPEARS ON ERC CERTIFICATE: AERA ENERGY LLC

ERC CERTIFICATE NO.: formerly AQ003604	ROG	NOx	SOx	CO	PM10
EXISTING EMITTANT AMOUNT (lbs/day)				307	
ALTERED AMOUNT (lbs/day) (Alteration Only)					
REMAINING AMOUNT (lbs/day) (Alteration Only)					

#### FACILITY INFORMATION

LEGAL NAME OF APPLICANT: COMPANY ID NO \_\_\_\_\_ IRS OR SOCIAL SECURITY NO. \_\_\_\_\_

**Southern California Public Power Authority**

EMISSION REDUCTION LOCATION: ADDRESS & STREET: **20101 GOLDENWEST ST**

(WHERE ERC WAS CREATED) CITY: Huntington Beach STATE: CA ZIP CODE: 92648 2628

BUSINESS MAILING ADDRESS ADDRESS & STREET: \_\_\_\_\_

OF APPLICANT: CITY: \_\_\_\_\_ STATE: CA ZIP CODE: \_\_\_\_\_

LOCATION WHERE ERC WILL BE USED ADDRESS & STREET: \_\_\_\_\_

FOR OFFSET (IF KNOWN) or TRANSFERRED: CITY: \_\_\_\_\_ STATE: CA ZIP CODE: \_\_\_\_\_

NAME(S) OF OWNER/PRINCIPAL PARTNERS: \_\_\_\_\_

CONTACT PERSON AND TITLE: **Bruce E. Blowey, Licensing Manager** TELEPHONE NO.: **661-252-6908**

DO YOU CLAIM CONFIDENTIALITY OF DATA? ☐ YES ☒ NO If Yes, state nature of data: \_\_\_\_\_

I HEREBY CERTIFY, UNDER PENALTY OF PERJURY, THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION ARE TRUE AND CORRECT.

SIGNATURE: *Bruce E. Blowey* TITLE: *Licensing Manager*

TYPE OR PRINT NAME OF SIGNER: **Bruce E. Blowey** TELEPHONE NO.: **661-252-5109**

DATE:

*10/26/01*

**SCAOMD  
USE  
ONLY**

CO ID NO.: \_\_\_\_\_

SCAT: \_\_\_\_\_

ENGR: \_\_\_\_\_

UNIT: \_\_\_\_\_

CCAT: \_\_\_\_\_

TYPE: B C D

SCH/STEP: \_\_\_\_\_

STATUS: \_\_\_\_\_

VALIDATION: \_\_\_\_\_

FILING FEE: \_\_\_\_\_

DATE: \_\_\_\_\_

REGISTRATION NO.: \_\_\_\_\_



## AGREEMENT FOR PURCHASE AND SALE OF EMISSION REDUCTION CREDITS

THIS AGREEMENT is made this 23rd day of October, 2001 by and between Aera Energy LLC, a California limited liability company ("Seller"), and the Southern California Public Power Authority, a Joint Powers Authority ("Buyer").

WHEREAS, Seller is the owner of certain carbon monoxide Emission Reduction Credits ("CO ERCs"), which are defined in and governed by Regulation XIII of the South Coast Air Quality Management District (the "SCAQMD");

WHEREAS, Buyer desires to purchase from Seller and Seller desires to sell to Buyer 307 lbs/day coastal zone CO ERCs (hereinafter "the CO ERCs");

AND WHEREAS, both parties desire to fully consummate this purchase and sale, and cause transfer of the CO ERCs as soon as they reasonably can do so.

1. **Purchase and Sale of the CO ERCs.** Seller shall sell to Buyer, and Buyer shall purchase from Seller the CO ERCs.

2. **Transfer of Ownership of the CO ERCs.** Immediately upon Seller's receipt of the payment referred to in Paragraph 3 below, the CO ERCs shall become the sole property and entitlement of Buyer. Except as provided in Paragraph 4 below, upon the payment of monies provided for in Section 3 below of this Agreement and upon Buyer's receipt of documentation evidencing that the CO ERCs have been transferred to Buyer, Buyer shall have no recourse against Seller in the event of change of law governing the CO ERCs.

3. **Purchase Price.** The Purchase Price for the CO ERCs is ~~Eighty Thousand Dollars (\$80,000.00)~~, or a total of ~~Eighty Thousand Dollars (\$80,000.00)~~, and is calculated by multiplying 307 lbs/day by ~~260.59/lb/day~~.

4. **Purchase Price Payment.** Following receipt of a fully signed copy of this agreement, Buyer and Seller shall each deliver the completed ERC transfer paperwork to Cantor Fitzgerald Brokerage, LP (CF) for submittal to the SCAQMD to effect the transfer of the CO ERCs from Seller to the Buyer. By executing this Agreement, Buyer and Seller direct CF to deliver such ERC transfer paperwork to the SCAQMD. Within 4 business days of receipt of a fully signed copy of this agreement, Buyer shall wire the Purchase Price to CF per CF's instructions. In the event that at any time prior to the issuance by SCAQMD of the documentation that evidences the transfer of the CO ERCs from Seller to Buyer, the CO ERCs cease, for any reason, including any change in legislation or the SCAQMD Rules, beyond the reasonable control of the parties, to be CO ERCs tradable in accordance with the SCAQMD Rules as they exist as of the date of this Agreement, then Buyer or Seller may terminate this Agreement without any liability or obligation to any party. After the CO ERCs are transferred to Buyer, in the event that the SCAQMD provides written notification to the parties that the CO ERCs were issued in error to Seller by the SCAQMD, Seller shall refund the Purchase Price to Buyer within 10 days of Seller's receipt of such notification and Buyer shall take steps necessary to deliver the CO ERCs to Seller. Within 5 days of receipt of SCAQMD documentation that evidences the transfer of the CO ERCs to Buyer, CF shall wire the Purchase Price to Seller per Seller's instructions.

5. **Brokerage.** Buyer and Seller each agree to pay CF's total Clean Air Auction fee as stipulated in their respective transaction confirmations and to pay such fees simultaneous with transfer of the Purchase Price to Seller. Buyer represents and warrants to Seller, and Seller represents and warrants to Buyer that, aside from CF, no broker or finder has been engaged by it, respectively, in connection with this Agreement. Each party shall indemnify and hold harmless the other from all damages resulting from any

October 24, 2001



Aera Energy/Southern California Public Power Authority  
ERC Purchase and Sale Agreement  
October 23, 2001  
Page 2

claims that may be asserted against the other party by any broker, finder, or other person with whom the indemnifying party has dealt.

6. **Warranty.** Seller warrants that Seller is the sole owner of record of the CO ERCs that will be transferred to Buyer free and clear of all encumbrances. Seller, moreover, has all necessary approvals to sell the CO ERCs to Buyer.

7. **Counterparts.** This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original and all of which shall constitute the same instrument, and may be executed by facsimile copy.

8. **Additional Documents.** At the request of either party, the other party shall use reasonable commercial efforts to execute and deliver such additional documents and do such other acts as may be necessary to carry out the full intent and purpose of this Agreement.


9. **Notice.** All notices and other communications in connection with this Agreement shall be sent to the following addresses: (a) For Seller: Aera Energy LLC, PO Box 11164, Bakersfield, CA 93389, Attention: Darryl H. Gunderson, Telephone No.: (661)665-5279, Facsimile No.: (661)665-5202; For Buyer: Southern California Public Power Authority, 225 South Lake Ave., Ste 1410, Pasadena, CA 91101, Attention: Bruce E. Blawie, Telephone No.: (661)252-6908, Facsimile No.: (661)252-5109; with a copy to Censor Fitzgerald Brokerage, L.P., Environmental Brokerage Services, 345 California Street, Suite 1260, San Francisco, CA 94104, Attention: Robin Langdon, Telephone No.: (800)228-2955, Facsimile No.: (415)396-9582.

10. **Entirety.** This Agreement sets forth the entire agreement of the parties with respect to the matters contained herein and all prior understandings, negotiations, and agreements with respect to same are merged herein.

11. **Assignment.** Buyer and Seller may assign their rights, duties and obligations pursuant to this Agreement. The party assigning its rights to another must notify the other party in writing of such transfer of rights, duties, and obligations prior to the completion of the final transaction of this Agreement.

12. **Applicable Law. THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF CALIFORNIA.**

Executed as of the date first above written.

By  10/27/01  
Aera Energy, LLC, Seller Date

By  10/26/01  
Southern California Public Power Authority, Buyer Date



**MAGNOLIA POWER PROJECT  
APPLICATION FOR CERTIFICATION  
RESPONSE TO CEC DATA REQUESTS  
01-AFC-06**

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**Technical Area: Air Quality**

**BACKGROUND**

The project will provide emission offsets for all criteria pollutants in accordance with the applicable rules and regulations of the SCAQMD. Since this project will be subject to the (SCAQMD) RECLAIM program, NO<sub>x</sub> and potentially SO<sub>x</sub> emissions will be offset utilizing RECLAIM Trading Credits (RTCs). Since RTCs are provided through a market-based system, the project will obtain NO<sub>x</sub> and potentially SO<sub>x</sub> RTCs through purchases of the necessary SCAQMD-certified emission credits on the RECLAIM RTC market. Emission offsets for ROG, PM<sub>10</sub>, CO, and potentially SO<sub>x</sub> will be provided through the acquisition of SCAQMD-certified Emission Reduction Credits (ERC) from the market-based ERC program. PM<sub>10</sub> and CO ERCs may be purchased through the District's priority reserve. Staff requires additional information regarding the status of the Applicant's offset package to adequately assess the effectiveness of the project's emission mitigation.

**Data Request 13:** Please provide a table that clearly identifies the amount of RTCs/ERCs obtained from each source and the balance of credits needed to fully offset the project.

**Response:** The table below identifies the amount of RTCs/ERCs obtained and the balance required. The ROG ERCs in the amount of 308 lbs/day were obtained from two sources. The first source was a power production facility located in South Gate, CA., where the ERCs were purchased for the plant operations. The second source of ROG ERCs were created in Vernon, CA., with the source category of "various locations in the SCAQMD". These ROG ERCs were purchased from an offset brokering firm which had acquired the ROG ERCs for trading purposes. The CO ERCs in the amount of 307 lbs/day were obtained from one source, an independent oil and gas production company, located in Huntington Beach, CA., where the CO ERCs had been reissued to the company.



**MAGNOLIA POWER PROJECT  
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01-AFC-06**

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**Emission Offset Summary**

<b>Pollutant</b>	<b>Offset Liability</b>	<b>Credits Obtained</b>	<b>Outstanding Balance</b>
ROG ERC	308 lbs/day	308 lbs/day	0
CO ERC	307 lbs/day	307 lbs/day	0

SCPPA has investigated the availability of PM<sub>10</sub> and SO<sub>x</sub> ERCs in the market. Attachment DR13-1 documents that no ERC are available in the quantities requires for MPP. Therefore, PM<sub>10</sub> and SO<sub>x</sub> emissions from MPP will be offset through the SCAQMD Priority Reserve.

Nevertheless, SCPPA has moved forward to obtain in advance NO<sub>x</sub> RTCs in the amount of 90,000 lb/yr for 2004 and 32,000 lb/yr for 2005 from one source. These RTCs were obtained from an oil and gas production company in Newhall, CA from its Coastal NO<sub>x</sub> RECLAIM allocation.



**Attachment DR 13-1**

**Cantor Fitzgerald Letters Dated 6/29/01 and 10/22/01**



CONFIDENTIAL



June 29, 2001

Mr. Bruce E. Blowey  
Licensing Manager  
Magnolia Power Project  
225 South Lake Avenue, Suite 300  
Pasadena, CA 91101

Magnolia Power Project's SCAQMD ERCs

Dear Mr. Blowey:

Cantor Fitzgerald Brokerage, L.P. has received the data on ERC requirements for the Magnolia Power Project. Based on these requirements, we offer the following observations for securing the requisite ERCs based on current market conditions:

- CO ERCs – we believe that it will be extremely difficult for the Magnolia Power Project to locate 920 lbs/day of coastal zone CO ERCs from the South Coast Air Quality Management (SCAQMD) market because of lack of available ERCs, as well as sellers not willing to sell their existing ERCs. The Magnolia Power Project may be able to secure a small portion of the required CO ERCs for between \$7,000 and \$9,000/lb/day.
- ROG ERCs – we believe that the Magnolia Power Project should be able to secure the required 308 lbs/day of ROG ERCs for between \$2,600 and \$5,000/lb/day.
- PM10 ERCs – we believe that it will be extremely difficult for the Magnolia Power Project to locate the required 441 lbs/day of coastal zone PM10 ERCs from the current PM10 ERC market because of lack of available ERCs, as well as sellers not willing to sell their existing ERCs. The Magnolia Power Project should be able to access the SCAQMD's Priority Reserve for the PM10 ERCs at \$25,000/lb/day.
- SOx ERCs – we believe that it will be extremely difficult for the Magnolia Power Project to locate 37 lbs/day of coastal zone SOx ERCs because of lack of available ERCs, as well as sellers not willing to sell their existing ERCs. The Magnolia Power Project may be able to secure a small portion of the required SOx ERCs for between \$7,500 and \$9,000/lb/day.
- NOx RTCs – we believe that it will be possible to secure the required 122,000 NOx RTCs/year from 2002-2010+ for between \$9.00 and \$12.00/RTC.

ENVIRONMENTAL BROKERAGE SERVICES

One World Trade Center  
New York, NY 10048  
212.938.4450  
212.938.4252 Fax

345 California Street, Suite 1260  
San Francisco, CA 94104  
415.296.9573  
415.296.9582 Fax

19 Old Kings Highway, South  
Danvers, CT 06820  
203.662.3638  
203.662.3643 Fax

25108 B. Marguerite Pkwy., PMB #420  
Mission Viejo, CA 92692  
949.597.0517  
949.597.0531 Fax

[www.emissionstrading.com](http://www.emissionstrading.com) - 800.228.2955



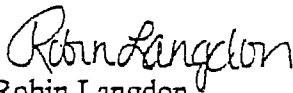
To ensure that the Magnolia Power Project has the best opportunity to successfully acquire the requisite ERCs and/or RTCs, we recommend they, with Cantor Fitzgerald's assistance, undertake the following strategy:

- ROG ERCs -- Provide ROG ERC holders with a bid as soon as practicable.
- PM10 and CO ERCs -- Undertake aggressive, deliberate, and concentrated efforts to engage in discussions with sources that have the potential to create PM10 and/or CO ERCs, but have either not taken steps to reduce emissions and/or made application to the SCAQMD for the ERCs. Provide bids to willing and able prospective sellers.
- SOx ERCs -- Undertake aggressive and concentrated efforts to acquire available SOx ERCs. Also, consider opting into the SOx RECLAIM program.
- NOx RTCs -- Bid for and acquire (or option) NOx RTCs as soon as practicable.

Although it is not commonly done in today's ERC and RTC markets, upon receipt of direction from the Magnolia Power Project, we will investigate the feasibility of providing sellers with an immediate non-refundable down payment for securing the ERCs and/or RTCs now with full payment forwarded at a later permit-driven date. Please call us at (800) 228-2955 with any questions. We look forward to continuing to work with you in meeting Magnolia Power Project's emissions trading needs. Thank you.

Sincerely,

CANTOR FITZGERALD BROKERAGE, L.P.

  
Robin Langdon  
Vice President  
Environmental Brokerage Services

cc: Tom Umenhofer -- Entrix, Inc.

rs\g\projects\auction\ercdocumentmagnolia.doc





October 22, 2001

Bruce E. Blowey  
Licensing Manager  
Magnolia Power Project  
225 S. Lake Avenue, Suite 1410  
Pasadena, CA 91101  
Facsimile: 626.440.8360

Magnolia Power Project PM10 and SOx ERC Acquisition

Dear Mr. Blowey:

You have advised us that the Magnolia Power Project requires 288 lbs/day of Coastal Zone SCAQMD PM10 ERCs and 37 lbs/day of Coastal Zone SCAQMD SOx ERCs. Cantor Fitzgerald Environmental Brokerage Services (Cantor Fitzgerald) has contacted more than one dozen PM10 and SOx ERC holders to inquire about their willingness to sell their Coastal Zone PM10 ERCs and/or Coastal Zone SOx ERCs. At the present time, we conclude that such quantity of currently banked PM10 ERCs and SOx ERCs cannot be secured at prices up to and including \$20,000/lb/day for PM10 ERCs and \$8,000/lb/day of SOx ERCs. Please feel free to call us at 800-228-2955 with any additional questions.

Sincerely,

CANTOR FITZGERALD BROKERAGE, L.P.

Robin Langdon  
Vice President  
Environmental Brokerage Services

345 California Street  
Ste 1260  
San Francisco, CA 94104  
415.296.9573  
800.228.2955  
415.296.9682 Fax



**MAGNOLIA POWER PROJECT  
APPLICATION FOR CERTIFICATION  
RESPONSE TO CEC DATA REQUESTS  
01-AFC-06**

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**Technical Area: Air Quality**

**BACKGROUND**

The project will provide emission offsets for all criteria pollutants in accordance with the applicable rules and regulations of the SCAQMD. Since this project will be subject to the (SCAQMD) RECLAIM program, NO<sub>x</sub> and potentially SO<sub>x</sub> emissions will be offset utilizing RECLAIM Trading Credits (RTCs). Since RTCs are provided through a market-based system, the project will obtain NO<sub>x</sub> and potentially SO<sub>x</sub> RTCs through purchases of the necessary SCAQMD-certified emission credits on the RECLAIM RTC market. Emission offsets for ROG, PM<sub>10</sub>, CO, and potentially SO<sub>x</sub> will be provided through the acquisition of SCAQMD-certified Emission Reduction Credits (ERC) from the market-based ERC program. PM<sub>10</sub> and CO ERCs may be purchased through the District's priority reserve. Staff requires additional information regarding the status of the Applicant's offset package to adequately assess the effectiveness of the project's emission mitigation.

**Data Request 14:** Please provide a final tally of the amount of PM<sub>10</sub> and CO ERCs that are proposed to be acquired from the SCAQMD's Priority Reserve.

**Response:** As noted above, SCPPA will obtain CO ERCs from the market. The table below identifies the amounts of PM<sub>10</sub> and SO<sub>x</sub> ERCs to be obtained from the SCAQMD Priority Reserve. Note that the Priority Reserve for SO<sub>x</sub> is expected to be authorized by the SCAQM Governing Board during their November 2001 Board Meeting.

**Priority Reserve ERCs**

Pollutant	Offset Liability (lbs/day)
PM <sub>10</sub>	288
SO <sub>x</sub>	31

Attachment DR14-1 provides documentation of the availability of SCAQMD Priority Reserve ERCs for MPP. While not specifically citing MPP, the Priority Reserve "bank" is sufficiently large to accommodate the MPP emission offset requirement. Furthermore, MPP, as an active permit applicant, has been accounted for in the SCAQMD expected allocation of ERCs.



**Attachment DR 14-1**

**ENTRIX Memorandum dated 10/25/01**



**E N T R I X**  
**EXTERNAL MEMORANDUM**

**ENTRIX, Inc.**  
2140 Eastman Ave, Suite 200  
Ventura, CA. 93003  
Phone: (805) 644-5948  
Fax: (805) 658-0612

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**To:** Bruce Blowey, Licensing Manager,  
Magnolia Power Project

**From:** Kevin Wright

**Subject:** South Coast Air Quality Management District (SCAQMD) Priority Reserve

**Date:** October 25, 2001

The SCAQMD has proposed revisions to Rule 1309.1, Priority Reserve. This proposed rule is scheduled to go before the SCAQMD Board on November 9, 2001. Per your request, the following is a synopsis of the rule revision:

1.) Mitigation Fee

The proposed mitigation fees for the Priority Reserve are as follows:

- SO<sub>x</sub> mitigation Fee: \$8,900 / lb.
- CO mitigation Fee: \$12,000 / lb.

2.) Credits set aside for Electric Generating Facilities:

The SCAQMD proposal has reserved 750 lb/day of SO<sub>x</sub> and 6,000 lb/day of CO for Electric Generating Facilities (EGF). Credits have been set aside for projects that have submitted applications and for anticipated projects. The tables attached show these projects, which include the MPP project.



**Table 1 – Profile of Power Plant Projects in SCAQMD (as of June 1, 2001)**

**Table 3 Applications Submitted**

<b>Project Name</b>	<b>Combustion Type</b>	<b>MW Size</b>	<b>Expected Online</b>	<b>SO<sub>2</sub> lb/day</b>	<b>CO lb/day</b>	<b>PM-10</b>
LADWP Harbor	Turbines	235	2001	30	320	220
LADWP Valley	Turbines-Peaker	47	2001	6	64	44
Valley Repower	RPWR	500	2003	82	668	616
Alliance	Turbines	80	2001	82	338	160
Pegasus	Turbines-Peaker	188	2001	36	808	296
AES HB	Boilers	450	2001	80	374	80
Bear Valley Electric	ICE	8	2001	1	63	1
El Segundo	Turbines	630	2003	68	611	574
Indigo	Turbines	135	2003	3	127	62
<b>Sub-Total Submitted</b>		<b>2,273</b>		<b>388</b>	<b>3,373</b>	<b>2,053</b>



**Table 1 (b) Projects anticipated in SCAQMD (no applications submitted yet)**

<b>Project Name</b>	<b>Combustion Type</b>	<b>MW Size</b>	<b>Expected Online</b>	<b>SO<sub>2</sub> lb/day</b>	<b>CO lb/day</b>	<b>PM-10</b>
Paramount	Co-gen	7	2001	1	10	7
AES Redondo	Turbines	700	2003	75	678	638
City of Vernon	Turbines-Peaker	94	2002	12	128	88
Power Innovators	ICE	11	2001	1	87	1
Stocker Resources	Turbines-Peaker	104	2001	13	142	97
THUMS	Turbines-Peaker	48	2002	6	65	145
Long Beach LACO	Turbines-Peaker	500	2003-4	64	681	468
El Segundo RPWR	Turbines-Peaker	550	2003-4	70	749	515
Burbank RPWR	Turbines-Peaker	550	2003-4	70	749	515
<b>Sub-Total Pending</b>		<b>2,564</b>		<b>312</b>	<b>3,289</b>	<b>2,474</b>
<b>Grand Total of Submitted plus Pending Applications within SCAQMD</b>		<b>4,837</b>		<b>700</b>	<b>6,662</b>	<b>4,527</b>



**MAGNOLIA POWER PROJECT  
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01-AFC-06**

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**Technical Area: Air Quality**

**BACKGROUND**

The project will provide emission offsets for all criteria pollutants in accordance with the applicable rules and regulations of the SCAQMD. Since this project will be subject to the (SCAQMD) RECLAIM program, NO<sub>x</sub> and potentially SO<sub>x</sub> emissions will be offset utilizing RECLAIM Trading Credits (RTCs). Since RTCs are provided through a market-based system, the project will obtain NO<sub>x</sub> and potentially SO<sub>x</sub> RTCs through purchases of the necessary SCAQMD-certified emission credits on the RECLAIM RTC market. Emission offsets for ROG, PM<sub>10</sub>, CO, and potentially SO<sub>x</sub> will be provided through the acquisition of SCAQMD-certified Emission Reduction Credits (ERC) from the market-based ERC program. PM<sub>10</sub> and CO ERCs may be purchased through the District's priority reserve. Staff requires additional information regarding the status of the Applicant's offset package to adequately assess the effectiveness of the project's emission mitigation.

**Data Request 15:** Please provide documentation that due diligence effort has been made to secure available RTCs and ERCs for each affected pollutant. This documentation must include:

- a. Records of all viable RECLAIM trading credit and emission reduction credit sources;
- b. What parties were contacted; and,
- c. The results of each attempt to obtain RTCs and ERCs from each party contacted.

**Response:** Attachments DR 11 through DR 14 provide key correspondence and documents related to the purchase of ERCs and RTCs, SCAQMD Priority Reserve discussion with SCAQMD Management, and market searches.



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**Technical Area: Air Quality**

**BACKGROUND**

In the AFC, there appears to be a few inconsistencies and errors. Staff needs clarification and correction of specific information provided to assess the application.

**Data Request 16:** The first paragraph on Page 5.2-84 of the AFC notes that the CO, VOC, PM<sub>10</sub> and SO<sub>2</sub> project emission rates are not significant in comparison to SCAQMD CEQA significance levels and references Table 5.2-54. However, Table 5.2-54 on Page 5.2-83 of the AFC shows that the CO, VOC and PM10 emission rates are above their respective SCAQMD CEQA significance thresholds. Please clarify or correct this apparent inconsistency.

**Response:** The statement on page 5.2-84 that states that the project is not significant for CO, VOC, PM<sub>10</sub> and SO<sub>2</sub>, is in error. The sentence should read: "Table 5.2-54 also shows that the SCAQMD significance levels are exceeded by the project for CO, NO<sub>2</sub>, PM10 and VOC."



**MAGNOLIA POWER PROJECT  
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**Technical Area: Air Quality**

**BACKGROUND**

In the AFC, there appears to be a few inconsistencies and errors. Staff needs clarification and correction of specific information provided to assess the application.

**Data Request 17:** The startup/shutdown emission provided in Appendix H.4 show identical SO<sub>2</sub> emission rates of 1.12 lbs/hr; however, the PM<sub>10</sub> emission rates are noted to be 12 lb/hr for start-up and 18 lb/hr for shutdown. Please clarify or correct this apparent inconsistency.

**Response:** As noted in the comment, shutdown PM<sub>10</sub> emissions would be larger than start-up emissions if they continued for a full hour. They do not, however, occur for a full hour. The PM<sub>10</sub> shutdown emission rate assumes the duct burners have been operating. Because duct burning cannot begin until the turbine is at 100% load, no duct burning was assumed during turbine start-up.

In addition, these estimated shutdown emissions are conservative since they assume duct burner firing, and these estimated PM<sub>10</sub> emissions have been mitigated through the purchase of ERCs.



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**Technical Area: Air Quality**

**BACKGROUND**

In the AFC, there appears to be a few inconsistencies and errors. Staff needs clarification and correction of specific information provided to assess the application.

**Data Request 18:** Please identify why the shutdown NO<sub>x</sub> emissions are higher than the startup NO<sub>x</sub> levels.

**Response:** The start-up emissions take into consideration the use of the auxiliary boiler to pre-heat the SCR so that it effectively operates during start-up. NO<sub>x</sub> shutdown emission levels were based on data provided by the turbine manufacturer and did not take into consideration the efficiency of the SCR. It is anticipated that the SCR may reduce emissions during the initial stages of shutdown since the SCR will be hot and some level of control should be achieved. However, at reduced loads the efficiency of the SCR is uncertain. In the absence of specific data it was conservatively assumed there would be no control during shutdown.



**MAGNOLIA POWER PROJECT  
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**Technical Area: Air Quality**

**BACKGROUND**

In the AFC, there appears to be a few inconsistencies and errors. Staff needs clarification and correction of specific information provided to assess the application.

**Data Request 19:** The cover letter submitted with the AFC the stated the followings..."as of April 20<sup>th</sup>, 2001, the South Coast Air Quality Management District (SCAQMD) has revoked their one-hour significance level for nitrogen oxides. This significance level resulted in several restrictions on start up emissions that are reflected in the AFC. The Applicant will be submitting a revised air quality analysis reflecting the revised SCAQMD regulations." Elsewhere in the AFC (pg 5.2-43) it notes that "the SCAQMD has proposed to change the significance levels for attainment areas of NO<sub>2</sub>. The project is within such as area. If the changes are adopted as currently proposed, the project may opt to not use the auxiliary boiler to preheat the SCR catalyst prior to start-up. Additional ambient modeling would be performed to assess impacts with the auxiliary boiler under startup conditions". Please clarify the apparent inconsistency regarding the regulatory status of the one-hour NO<sub>2</sub> significance level. Also please identify if any changes to the startup assumption have been determined, and if so provide the supporting documentation and impact modeling files.

**Response:** The AFC preparation was completed prior to the adopted change in NO<sub>2</sub> significance levels for attainment areas. The previous restrictions stated that if a NO<sub>2</sub> concentrations created by a proposed source are greater than 20 µg/m<sup>3</sup>, the project was considered to have a significant impact for NO<sub>2</sub>. This regulation was in place to decrease NO<sub>x</sub> emissions from new sources and to assist in attaining the annual ambient air quality standard for NO<sub>2</sub>. Although this regulation has been changed, and the hourly NO<sub>2</sub> significance level has been lifted, no project revisions have been proposed to date. The proposed MPP still assumes the auxiliary boiler will be used during turbine start-up to heat up the NO<sub>x</sub> control



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system, decreasing start-up emissions. Therefore, no further analysis is required at this time.



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01-AFC-06**

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**Technical Area: Air Quality**

**BACKGROUND**

In order to assess the continuing air quality permitting issues under the timeframe for the assessment of this project, staff requires timely copies of all written communication between the Applicant and the District.

**Data Request 20:** Please provide all written project correspondence (including e-mails) relating to ERC's and District air quality permitting issues that have occurred to date between the District or USEPA and the Application, and as it occurs between the District or USEPA and Applicant until the final commission decision for this case.

**Response:** The attached documents represent written project correspondence relating to ERCs and SCAQMD air quality permitting issues.



**Attachment DR 20-1**

**Project Correspondence**





Southern California  
Public Power Authority

September 28, 2001

Mr. Barry Wallerstein  
Executive Officer  
South Coast Air Quality Management District  
21865 E. Copley Drive  
Diamond Bar, California 91765-4182

Re: Magnolia Power Project Emission Offset Package

Dear Mr. Wallerstein:

Thank you for agreeing to meet with representatives of SCPPA with respect to the Magnolia Power Project (MPP). As a follow-up to the MPP letter of August 31, 2001, I would like suggest that we focus our October 5 meeting discussion on the following two key topics:

- ♦ Timing of the Emission Offset Package; and
- ♦ Use of Priority Reserve Funds.

As you may know, our conversations with your senior staff regarding these two issues have been helpful in giving us direction and facilitated this meeting with you. We appreciate their efforts in bringing our concerns to your attention.

#### Timing of Emission Offset Package

As you may know, the MPP is a public power project sponsored by the members of SCPPA. The project intends to secure its emission reduction package through acquisition of Reclaim Trading Credits (RTCs) and Emission Reduction Credits (ERCs) as well as from the District's Priority Reserve for emission offsets unavailable on the market. The MPP intends to make the investment in this emission reduction credit package (whether RTCs, ERCs, or Priority Reserve) once bonds are issued for the project and the bond proceeds are available to the project.

Our project licensing dilemma is rather straightforward. In order for the bonds to be issued, MPP must first obtain a California Energy Commission (CEC) license. In order to obtain a CEC license, the South Coast Air Quality Management District (SCAQMD) must first issue a Determination of Compliance (DOC). It is our understanding that in order to issue a DOC, it is SCAQMD current practice to require that a project first obtain all necessary emission offsets. This places the MPP in a "Catch 22". We cannot get the project funding without the DOC, and we cannot pay for the emission offsets for the DOC without the funding.

#### Member Cities:

Anaheim  
Azusa  
Banning  
Burbank  
Cotton  
Glendale  
Los Angeles  
Pasadena  
Riverside  
Vernon  
and the  
Imperial Irrigation  
District

225 South  
Lake Avenue  
Suite 1410  
Pasadena, CA  
91101

(626) 793-9364  
Fax  
(626) 793-9461



Letter to Barry Wallerstein  
September 28, 2001  
Page Two

MPP requests your support in obtaining CEC certification by allowing MPP to pay for emission offsets after CEC certification of the project in order that the MPP Cities can obtain the substantial funding necessary to purchase emission offsets. Such funding will proceed promptly upon receiving CEC certification.

#### Use of Priority Reserve Funds

MPP has diligently attempted to identify ERCs for PM10 and CO on the market. In addition, we are actively attempting to qualify municipal emission reduction programs (such as heavy duty equipment replacements) for ERCs. It is expected that neither of these efforts will yield the necessary PM10 and CO emission reduction credits for the project. District staff has indicated that the existing PM10 and pending CO Priority Reserve Programs can provide these PM10 and CO ERCs not available through other alternatives.

MPP Cities request the District's cooperative efforts to facilitate a priority being placed on these Priority Reserve funds to enable all or a portion of these funds go to reduce air pollution in the communities that provided the funds. In other words, the seven cities participating in the MPP should see tangible air quality benefit to the substantial financial contribution to the Priority Reserve. In essence, this "new" Priority Reserve money would be used to create new emission reductions (which likely would go beyond merely PM10 reductions) in those cities that have paid in to the fund. We believe this is not only responsible use of public funds but fosters opportunities for other municipal public benefit funds to be pooled to create even more air quality benefit programs. We respectfully request your support in developing this concept.

Please understand that time is of the essence in resolving these issues as the Magnolia Power Project is on the CEC's expedited (six-month) project review cycle.

Thank you again for your attention regarding these important matters.

Sincerely,



Bill D. Carnahan  
Executive Director

BDC/TU:gm:gim



**Meeting Notes**  
**Magnolia Power Project (MPP) and SCAQMD**  
**Friday, October 5, 2001 at 3:00 PM**  
**SCAQMD Diamond Bar Headquarters**

**Participants**

Bill Carnahan – SCPPA  
Ron Davis – Burbank  
Fred Fletcher – Burbank  
Steve Sciortino – Anaheim  
Katie Wilson – Cerritos  
Bruce Blowey – MPP  
Tom Umenhofer – ENTRIX

Barry Wallerstein – SCAQMD  
Carol Coy – SCAQMD  
Barbara Baird – SCAQMD  
Mohsen Nazemi – SCAQMD  
Elaine Chang – SCAQMD

**Summary**

- MPP staff introduced the two issues to be discussed: (1) SCAQMD issuing a Determination of Compliance prior to funding of ERCs (including Priority Reserve) and RTCs, (2) Use of Priority Reserve funding in MPP Cities.
- The SCAQMD committed to have its legal and policy staff look into addressing the issue of the MPP's municipal funding requirements and inability to provide mitigation fees for the purchase of priority reserve credits prior to the issuance of a Determination of Compliance.
- The SCAQMD provided information on the allocation process of funds by the Governing Board from priority reserve fees, and gave examples of the types of projects which were funded.
- The meeting closed with a commitment from SCAQMD and MPP to work on solutions to the two subject issues. Key SCAQMD senior staff members with regard to future communication are Carol Coy and Mohsen Nazemi. Mr. Umenhofer was designated as the MPP contact.





Southern California  
Public Power Authority

October 16, 2001

Mr. Barry Wallerstein  
Executive Officer  
South Coast Air Quality Management District  
21865 E. Copley Drive  
Diamond Bar, California 91765-4182

Re: Follow-up to MPP/SCAQMD Meeting

Dear Mr. Wallerstein:

On behalf of the Magnolia Power Project (MPP) City members, I would like to express our sincere appreciation for the time you and your senior staff devoted to discussing this important project with us on October 5, 2001. Your comments and suggestions were very helpful and timely in assisting MPP as we proceed through the California Energy Commission (CEC) licensing process.

Subsequent to the meeting, MPP staff and your senior permitting staff initiated investigation of a process to address the issue of MPP funding of the South Coast Air Quality Management District (SCAQMD) Priority Reserve. We will continue to work actively with your senior staff and, per your suggestions, the CEC to obtain clear path to allow for CEC licensing to occur, followed by final issuance of the SCAQMD Permit to Construct subject only to MPP payment to the Priority Reserve.

MPP will also be working with your Priority Reserve Program staff to identify municipal air quality projects that may be considered as candidates for Priority Reserve funding. We certainly will strongly consider the suggested programs you cited in our October meeting. We have had initial conversations with your permitting staff as to how the overall process works in to the District. In the near future, we will be bringing to SCAQMD specific programs from the MPP City members for your and the SCAQMD Governing Board consideration.

Thank you again for your efforts on behalf of the Project cities; Anaheim, Burbank, Cerritos, Colton, Glendale, Pasadena, and San Marcos. The opportunity for your agency to work together with SCPPA and the Project participants to develop and implement clean air projects within the participant cities is exciting, innovating and benefits all of southern California.

**Member Cities:**

Anaheim

Azusa

Banning

Burbank

Colton

Glendale

Los Angeles

Pasadena

Riverside

Vernon

and the

Imperial Irrigation  
District

225 South  
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Letter to Barry Wallerstein  
October 17, 2001  
Page Two

We look forward to further discussion with you and your staff as the Magnolia Power Project continues toward CEC certification.

Sincerely,

A handwritten signature in black ink, appearing to read 'Bill Carnahan', with a long horizontal flourish extending to the right.

Bill Carnahan  
Executive Director

Cc: Marcie Edwards, Anaheim Public Utility  
Ron Davis, Burbank Water and Power  
Art Gallucci, City of Cerritos  
Tom Clarke, City of Colton  
Ignacio Troncoso, Glendale Water and Power  
Phyllis Currie, Pasadena Water and Power  
R.W. Gittings, City of San Marcos





Paula Bradshaw

02/22/01 12:09 PM

To: cmarlia@aqmd.gov

cc: Joan Heredia/SantaBarbara/URSCorp@URSCORP, Perry  
Fontana/SantaBarbara/URSCorp@URSCORP

Subject: SCAQMD Information Request

Chris, attached is the list of zip codes for the areas within a six mile radius of the Project Site (Magnolia Power Project). The 'Magnolia Power Project' refers to the installation of a nominal 270MW combustion turbine generator at the existing Magnolia & Olive Power Station.

With regard to URS' instruction to conduct a cumulative modelling analysis, for which we require this information, note that CEC Siting Regulations require an evaluation of the Project's direct and cumulative air quality impacts, per Appendix B (8)(l)(iii). Since an AFC must be obtained from the CEC for the Magnolia Power Project, a cumulative analysis is required. I will fax you this excerpt from the CEC Siting Regulations, and hopefully this will enable you to process the information request as quickly as possible. If you need further documentation in order to expedite the information request, please let me know.

Thank you for your help.

Regards,

Paula Bradshaw

URS Corporation

Santa Barbara, CA 93117

Ph 805 964 6010 Cell 805 878 4388

----- Forwarded by Paula Bradshaw/SantaBarbara/URSCorp on 02/22/01 11:49 AM -----



Paula Bradshaw

02/20/01 04:29 PM

To: tumenhofer@entrinx.com

cc: Joan Heredia/SantaBarbara/URSCorp@URSCORP

Subject: SCAQMD Information Request

Tom

#### Re: Magnolia Power Project Cumulative Modeling Analysis - Information Request

Regarding our information request to the SCAQMD for existing and potential emission sources within a six mile radius of the Project site, below are the zip codes of the areas within that radius. I trust that this is the information you required - please let me know if you need further info. Thank you.

Regards

Paula Bradshaw

91352

91504

91501

91605

91606

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91602

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91208  
91206  
91042

Paula Bradshaw  
URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388





**System Administrator**  
**<postmaster@aqmd.gov>**

02/22/01 12:10 PM

To: Paula\_Bradshaw@urscorp.com  
cc:  
Subject: Delivered: SCAQMD Information Request

<<SCAQMD Information Request>> Your message

To: cmarlia@aqmd.gov  
Cc: Joan\_Heredia@URSCorp.com; Perry\_Fontana@urscorp.com  
Subject: SCAQMD Information Request  
Sent: Thu, 22 Feb 2001 12:09:04 -0800

was delivered to the following recipient(s):

Chris Marlia on Thu, 22 Feb 2001 12:10:14 -0800

----- Message from on -----





Paula Bradshaw

02/23/01 03:10 PM

To: cmarlia@aqmd.gov

cc:

Subject: Revised format cumulative sources

Chris, regarding the information that the SCAQMD is gathering for the City of Burbank Magnolia Power Project (i spoke with you about this earlier in the week) - could you please cc the information that you submit to Keith Golden at the CEC to Joan Heredia at this office? Joan's email is joan\_heredia@urscorp.com

Thanks - in that way we will be able to look at the data at the same time that the CEC looks at it.

Regards

Paula

URS Corporation

Santa Barbara, CA 93117

Ph 805 964 6010 Cell 805 878 4388

----- Forwarded by Joan Heredia/SantaBarbara/URSCorp on 02/23/01 02:17 PM -----



"Keith Golden"

<Kgolden@energy.state.ca.us>

02/23/01 10:53 AM

To: <cmarlia@aqmd.gov>, <fgoh@aqmd.gov>

cc: "Mike Ringer" <Mringer@energy.state.ca.us>, <tumenhofer@entrix.com>, <joan\_heredia@urscorp.com>

Subject: Revised format cumulative sources

Dear Messrs. Marlia and Goh,

After discussions with Francis Goh this morning, I found out that the spread sheet that I was referencing was in error. I understand that the following spread sheet is the format that the South Coast AQMD uses for a search of possible sources for our cumulative modeling work. Please disregard the previous spreadsheet format I sent yesterday. One additional note, the spreadsheet attached shows emissions only for PM10 and NOx. We are requesting that you also include columns indicating emissions of CO and SO2. Thank you very much for your assistance in this effort.

Keith Golden  
CEC



Southcoast list sources.xl



# TELEPHONE CONVERSATION RECORD

## URS

130 Robin Hill Road, Ste. 100, Santa Barbara, California 93117  
805.964-6010 FAX 805.964.0259

COPIES TO:

DATE March 20, 2001 TIME \_\_\_\_\_  
WHO? Marty Kay COMPANY SCAQMD  
Recorded by: Paula Bradshaw  
PROJ NAME Burbank MPP Aux Boiler BACT PHONE NO. 909 396 2000 xtn?  
PROJ NO. 6600000084.00 03004

Asked him about guidelines for BACT for an aux boiler ~ 6. MMBtu/hr. Told him that I had looked on the SCAQMD website & there were turbine BACT guidelines for major sources, but not boiler guidelines.

He said that I should look at the guidelines for minor sources, as there would not be any less stringent than for major sources. See guidelines for minor sources Part D.

Probably NOx BACT will be 12ppm  
and CO 50-100ppm.

Marty Kay, Analysis & Compliance Supervisor  
SCAQMD.

OK to use these guidelines in the AEC as the g/l for BACT for the aux boiler.





Paula Bradshaw

03/27/01 11:52 AM

To: hstoddard@aqmd.gov

cc:

Subject: Preliminary Fee Estimation

Hi Hamilton, further to our phone call today, here are the estimates that I have made for the SCAQMD PTC and P/O fees for the proposed Magnolia Power Project (MPP). The MPP involves installation of a natural gas fired, combined cycle power plant with a nominal capacity of 250 MW. The new plant (MPP) will be located at the existing Burbank Power Station in Burbank, CA. The power train comprises an F-Class combustion turbine, heat recovery steam generator (HRSG) with supplemental duct burning, and a steam turbine generator. The post combustion control mechanisms will include an SCR and an oxidizing catalyst.

There will also be a new auxiliary boiler (6MMBtu/hr), an ammonia storage tank (for the SCR), and a new cooling tower.

Here are the estimates that i have come up with so far: Can you please check this total cost and let me know if it is / is not correct?

Turbine/HRSG	Schedule G	\$27,143.48
SCR system	Schedule C	\$2,087.74
NH3 Tank	Schedule B	\$810.95
Auxiliary boiler	Schedule C	\$2,087.74
Health Risk Assessment (NH3)		\$2,947.16

<b>TOTAL</b>		<b>\$35,077.07</b>
--------------	--	--------------------

My questions are:

1. I understand that there is an exemption from emissions permitting for the cooling tower if recycled water (not process water) is used, therefore no SCAQMD forms or fees apply to the cooling tower, is this correct?
2. Is a separate application form/fee required for the oxidation catalyst as it is for the SCR?

Thank you very much for your help. Please call me if you have any questions/queries. I need to inform my client of a cost today so that they can prepare a check for the application amount. We expect that this application will be lodged to the SCAQMD some time in April 2001.

Regards  
Paula

URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388





**Hamilton Stoddard**  
<[hstoddard@aqmd.gov](mailto:hstoddard@aqmd.gov)>  
v>

03/27/01 01:58 PM

To: "Paula\_Bradshaw@URSCorp.com" <[Paula\\_Bradshaw@urscorp.com](mailto:Paula_Bradshaw@urscorp.com)>  
cc:  
Subject: RE: Preliminary Fee Estimation

Paula, you did a very good job. Just a few minor corrections.

1. The NH3 tank is really "an aqueous ammonia transfer and storage", schedule C, \$2087.74.
2. Question 1: This is correct, no permit needed. See Rule 219(d)(3).
3. Question 2: I think the NOx and CO (oxidation) catalysts are combined, therefore no additional fee.
4. The new total is \$36,353.86.

Hamilton.

-----Original Message-----

From: Paula\_Bradshaw@URSCorp.com [[mailto:Paula\\_Bradshaw@URSCorp.com](mailto:Paula_Bradshaw@URSCorp.com)]  
Sent: Tuesday, March 27, 2001 11:53 AM  
To: hstoddard@aqmd.gov  
Subject: Preliminary Fee Estimation

Hi Hamilton, further to our phone call today, here are the estimates that I have made for the SCAQMD PTC and P/O fees for the proposed Magnolia Power Project (MPP). The MPP involves installation of a natural gas fired, combined cycle power plant with a nominal capacity of 250 MW. The new plant (MPP) will be located at the existing Burbank Power Station in Burbank, CA. The power train comprises an F-Class combustion turbine, heat recovery steam generator (HRSG) with supplemental duct burning, and a steam turbine generator. The post combustion control mechanisms will include an SCR and an oxidizing catalyst.

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TOTAL            \$35,077.07

My questions are:

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2. Is a separate application form/fee required for the oxidation catalyst as it is for the SCR?

Thank you very much for your help. Please call me if you have any questions/queries. I need to inform my client of a cost today so that they can prepare a check for the application amount. We expect that this application will be lodged to the SCAQMD some time in April 2001.

Regards  
Paula

URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388



*cooling tower exemption*  
*see Rule 219(d)(3)*  
(Adopted Jan. 9, 1976)(Amended Oct. 8, 1976)(Amended February 2, 1979)  
(Amended Oct. 5, 1979)(Amended Sept. 4, 1981)(Amended June 3, 1988)  
(Amended September 11, 1992)(Amended August 12, 1994)  
(Amended December 13, 1996)(Amended September 11, 1998)  
(Amended August 13, 1999)(Amended May 19, 2000)  
(Amended November 17, 2000)

**RULE 219. EQUIPMENT NOT REQUIRING A WRITTEN PERMIT  
PURSUANT TO REGULATION II**

**Preamble**

A written permit or registration shall not be required for the following equipment unless the equipment, process material or air contaminant is subject to Regulation IX, or X, or the emission limitation requirements of either the state Air Toxic Control Measure (ATCM) or the National Emission Standards For Hazardous Air Pollutants (NESHAP), or unless the Executive Officer determines that the risk will be greater than identified in subparagraph (d)(1)(A), or paragraphs (d)(2) or (d)(3) in Rule 1401, or unless the Executive Officer determines that the equipment may not operate in compliance with all applicable District Rules and Regulations. Once the Executive Officer makes such a determination and written notification is given to the equipment owner or operator, the equipment shall thereafter be subject to Rules 201 and 203 for non-RECLAIM sources and Rule 2006 for RECLAIM sources.

**(a) Mobile Equipment**

- (1) motor vehicle or vehicle as defined by the California Vehicle Code; or
- (2) marine vessel as defined by Health and Safety Code Section 39037.1; or
- (3) a motor vehicle or a marine vessel that uses one internal combustion engine to propel the motor vehicle or marine vessel and operate other equipment mounted on the motor vehicle or marine vessel; or
- (4) equipment which is mounted on a vehicle, motor vehicle or marine vessel if such equipment does not emit air contaminants.

This subdivision does not apply to equipment which emits air contaminants and which is mounted and operated on a motor vehicle, marine vessel, mobile hazardous material treatment systems, mobile day tankers except those carrying solely fuel oil with an organic vapor pressure of 5 mm Hg (0.1 psi) absolute or less at 21.1°C (70°F), or pavement heating machines.



- (5) Equipment utilized exclusively in connection with any structure which is designed for and used exclusively as a dwelling for not more than four families, and where such equipment is used by the owner or occupant of such a dwelling.
  - (6) Laboratory testing and quality control testing equipment used exclusively for chemical and physical analysis, non-production bench scale research equipment, and control equipment exclusively venting such equipment. Laboratory testing equipment does not include engine test stands or test cells unless such equipment is also exempt pursuant to paragraph (b)(4).
  - (7) Vacuum-producing devices used in laboratory operations or in connection with other equipment not requiring a written permit.
  - (8) Vacuum-cleaning systems used exclusively for industrial, commercial or residential housekeeping purposes.
  - (9) Hoods, stacks or ventilators.
- (d) Utility Equipment - General
- (1) Comfort air conditioning or ventilating systems which are not designed or used to remove air contaminants generated by, or released from, specific equipment units, provided such systems are exempt pursuant to paragraph (b)(2).
  - (2) Refrigeration units except those used as or in conjunction with air pollution control equipment.
  - (3) Water cooling towers and water cooling ponds not used for evaporative cooling of process water or not used for evaporative cooling of water from barometric jets or from barometric condensers, and in which no chromium compounds are contained.
  - (4) Equipment used exclusively to generate ozone and associated ozone destruction equipment for the treatment of cooling tower water or for water treatment processes.
  - (5) Equipment used exclusively for steam cleaning provided such equipment is also exempt pursuant to paragraph (b)(2).
  - (6) Equipment used exclusively for space heating provided such equipment is exempt pursuant to paragraph (b)(2).
  - (7) Equipment used exclusively to compress or hold purchased quality natural gas, except internal combustion engines not exempted pursuant to paragraph (b)(1).



# TELEPHONE CONVERSATION RECORD

# URS

130 Robin Hill Road, Ste. 100, Santa Barbara, California 93117  
805.964-6010 FAX 805.964.0259

COPIES TO:

DATE	<u>April 21, 2001</u>	TIME	<u></u>
TO	<u>Tom Chico</u>	FROM	<u>Paula Bradshaw, URS</u>
COMPANY	<u>SCAQMD</u>		
ADDRESS	<u></u>	PHONE NO.	<u>909-396-3149</u>
PROJ NAME	<u>Magnolia Power Project</u>	PROJ/TASK NO.	<u>66-00000084.00</u>

Re: **Information on El Segundo Cumulative Analysis for Reference**

He will ask the permit engineer/RECLAIM people and call me if further questions.

Tom Chico talked to John Yee (SCAQMD) and John reckoned that the (SCAQMD) had not seen the cumulative analysis for El Segundo yet. Suggested that we try the CEC (James Reede).





Santa Barbara Office

FILE COPY

LETTER OF TRANSMITTAL

TO: SCAQMD  
21865 E Copley Dr  
Diamond Bar CA 91765-4182  
ATTN.: John Yee

DATE: June 08, 2001  
PROJECT: Magnolia Power Project  
PROJECT #: 66-00000084.00 3001

WE ARE TRANSMITTING ☒ HEREWITH ☐ UNDER SEPARATE COVER THE FOLLOWING:

John,

Re: SCAQMD Authority to Construct Application, Magnolia Power Project - Addendum

Please see the attached expedited permit processing form (Form 400 XPP) for the SCAQMD. This authorizes the SCAQMD staff up to 200 hours in order to facilitate expedited permit processing. Please disregard the original Form XPP that authorized 40 hours.

Thank you.

URS CORPORATION

Paula Bradshaw

c: File

Ref: 6600000084.00 03001  
Dept: 990002006600/00000

Date: 07JUN01 SHIPPING \$6.48  
Wgt: 0.5 LBS SPECIAL \$0.26  
HANDLING \$0.00  
TOTAL \$6.74

SERVICE: PRIORITY OVERNIGHT  
TRACK: 4955 8077 9272

Ref: 6600000084.00 03001  
Dept: 990002006600/00000

Date: 07JUN01 SHIPPING \$6.48  
Wgt: 0.5 LBS SPECIAL \$0.26  
HANDLING \$0.00  
TOTAL \$6.74

SERVICE: PRIORITY OVERNIGHT  
TRACK: 4955 8077 9272

130 Robin Hill Road, Suite 100, Santa Barbara, CA 93117  
(805) 964-6010 ☐ Fax (805) 964-0259





South Coast Air Quality Management District  
P. O. Box 4944  
Diamond Bar, CA 91765  
(909) 396-2000

Form 400-A and one or more 400-E-xx form(s)  
must accompany all submittals.

# EXPRESS PERMIT PROCESSING REQUEST FORM FORM 400 - XPP

FILE COPY

## Section I - Facility/Application Information

- Business Name: SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY Facility ID:
- The requested application is for a(n): Date of Occurrence:
  - ☒ New Construction
  - Change of Location
  - Modification of Equipment/Process
  - Existing Equipment with Expired Permit
  - Existing Equipment Operating without a Permit; Initial Operation Date:
  - Change of Condition(s); Specify the change of condition(s) requested:
  - Change of Operator; List previous name of operator and Facility ID #:
- I hereby request Express Permit Processing for this application.
- I understand that this request will incur additional fees.
- This request is not cancelable once engineering review has been initiated.
- Express Permit Processing neither guarantees action by any specific date nor does it guarantee permit approval.

## Section II - Equipment Information

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.  
SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: TITLE OF RESPONSIBLE OFFICIAL OF FIRM: EXECUTIVE DIRECTOR

OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: BILL CARNAHAN

RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER

DATE SIGNED:

626 793 9364

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.  
SIGNATURE OF PREPARER: TITLE OF PREPARER: AIR QUALITY ENGINEER

SIGNATURE OF PREPARER:

TYPE OR PRINT NAME OF PREPARER: PAULA BRADSHAW

PREPARER'S TELEPHONE NUMBER 805 964 6010

DATE SIGNED:

06/07/01

We authorize the SCAQMD to spend up to 200 hours to facilitate expedited permitting.

SCAQMD USE ONLY		APPLICATION/TRACKING #		PROJECT #		TYPE B C D		EQUIPMENT CATEGORY CODE: _____/____		FEE SCHEDULE: \$		VALIDATION	
ENG. A R DATE		ENG. A R DATE		CLASS I III IV		ASSIGNMENT UNIT ENGINEER		ENF. SECT.		CHECK/MONEY ORDER #		AMOUNT \$	

FORM 400 XPP, Rev. 12/99

S:\00proj\00000084 Burbank\Air Quality\SCAQMD Application\400XPP.doc



**L E T T E R   O F   T R A N S M I T T A L**

<b>TO:</b>	SCPPA 225 S Lake Ave, Suite 1410 Pasadena CA 91101	<b>DATE</b>	June 08, 2001
<b>ATTN.:</b>	Bruce Blowey	<b>PROJECT</b>	Magnolia Power Project
		<b>PROJECT #</b>	66-00000084.00 3001

WE ARE TRANSMITTING ☒ **HEREWITH** ☐ **UNDER SEPARATE COVER** THE  
FOLLOWING:

**Bruce,**

Please see the attached expedited permit processing form (Form 400 XPP) for the SCAQMD. We have recently been advised that the SCAQMD require authorization for approximately 200 hours in order to carry out the expedited permit processing.

Could you please have Bill Carnahan sign the attached Form 400XPP, and forward it to the SCAQMD to the attention of John Yee? We have enclosed a FeEx envelope and transmittal note addressed to John Yee at the SCAQMD.

**Thank you.**

**URS CORPORATION**

Paula Bradshaw

c: File





Santa Barbara Office

file copy  
(Paula)

## LETTER OF TRANSMITTAL

**TO:** SCAQMD  
21865 E Copley Dr  
Diamond Bar, CA 91765-4182  
**ATTN.:** John Yee

**DATE** June 15, 2001  
**PROJECT** Magnolia Power Project  
**PROJECT #** 6600000084.00 04000

WE ARE TRANSMITTING ☒ **HEREWITH** ☐ **UNDER SEPARATE COVER** THE  
FOLLOWING:

John,

Re: Title V Application Forms for the Magnolia Power Project

Please find the attached Title V Application Forms (Form 500-A2 & 500 C1) for the Magnolia Power Project (MPP). These forms are provided in addition to the Authority to Construct Application for the MPP that was submitted to the SCAQMD on May 15, 2001.

We trust that the submittal of the Title V forms satisfies the SCAQMD requirements for the Authority to Construct application.

If you have any questions on the attachments, please contact the undersigned. Thank you.

**URS CORPORATION**

**Paula Bradshaw**  
**Senior Environmental Engineer**

130 Robin Hill Road, Suite 100, Santa Barbara, California, 93117  
(805) 964-6010 ☐ Fax (805) 964-0259



## Section I - Facility Information

1. Facility Name: MAGNOLIA POWER PROJECT Facility ID (6-Digit): \_\_\_\_\_
2. This Certification is submitted with a (Check one):  
a. ☒ Title V Application  
b. ☐ Supplement/Correction to a Title V Application
3. Is Form 500-C2 included with this Certification? a. ☐ Yes b. ☒ No

## Section II - Responsible Official Certification Statement

I certify under penalty of law that I am the responsible official for this facility as defined in AQMD Regulation XXX and that based on information and belief formed after reasonable inquiry, the statements and information in this document and in all attached application forms and other materials are true, accurate, and complete.

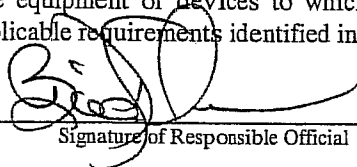
*Read each statement carefully and check each that applies.*

### 1. For Initial & Permit Renewal Application Certifications:

- a. ☐ The facility, including equipment that are exempt from written permit per Rule 219, is currently operating and will continue to operate in compliance with all applicable requirement(s) identified in Section II and Section III of Form 500-C1,  
i. ☐ except for those requirements that do not specifically pertain to such devices or equipment and that have been identified as "Remove" on Section III of Form 500-C1.  
ii. ☐ except for those devices or equipment that have been identified on the completed and attached Form 500-C2 that will not be operating in compliance with the specified applicable requirement(s).
- b. ☒ The facility, including equipment that are exempt from written permit per Rule 219, will meet in a timely manner, all applicable requirements with future effective dates.

### 2. For Permit Revision Application Certifications:

- a. ☐ The equipment or devices to which this permit revision applies, will in a timely manner comply with all applicable requirements identified in Section II and Section III of Form 500-C1.



Signature of Responsible Official

Date

Bill Carnahan

626-793-9364

Type or Print Name of Responsible Official

Phone

Executive Director

626-793-9461

Title of Responsible Official

Fax

225 S Lake Ave, Suite 1410

Pasadena

CA

91101

Address of Responsible Official

City

State

Zip Code

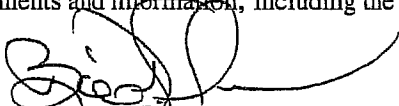
**Acid Rain Facilities Only: Turn page over & complete Section III**



Acid Rain facilities must certify their compliance status of the devices subject to applicable requirements under Title IV by an individual who meets the definition of Designated (or Alternate) Representative in 40 CFR Part 72.

**Section III - Designated Representative Certification Statement**

1. *For Acid Rain Facilities Only:* I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.



Signature of Designated Representative or Alternate

Date

Bill Carnahan

626-793-6908

Type or Print Name of Designated Representative or Alternate

Phone

Executive Director

626-793-9461

Title of Designated Representative or Alternate

Fax

225 S Lake Ave, Suite 1410

Pasadena

CA

91101

Address of Designated Representative or Alternate

City

State

Zip Code



To provide the compliance status of your facility with applicable federally-enforceable requirements and identify other local-only requirements, complete this form and attach it to a completed compliance certification Form 500-A2. As appropriate, all submittals of Form 500-C2 as appropriate should also be attached to this form.

**Section I - General Information**

1. Facility Name: MAGNOLIA POWER PROJECT

Facility ID (6-Digit): 25638

**PROCEDURES FOR DETERMINING COMPLIANCE STATUS**

1. **Equipment verification:** Review the list of pending applications, and either the preliminary Title V facility permit or the list of current permits to operate that the AQMD provides you, to determine if they completely and accurately describe all equipment operating at the facility. Attach a statement to describe any discrepancies.
2. **Identify applicable requirements\*:** Use the checklist in Section II to identify all applicable and federally-enforceable local, state, and federal rules and regulations, test methods and monitoring, recordkeeping and reporting (MRR) requirements that apply to any equipment or process (including equipment exempt from a permit by Rule 219) at your facility. The potential applicable requirements, test methods and MRR requirements are identified and listed adjacent to each given equipment/process description. Check off each box adjacent to the corresponding requirement as it applies to your particular equipment/process.  
Note: Even if there is only one piece of equipment that is subject to a particular requirement, the appropriate box should be checked.
3. **Identify additional applicable requirements\*:** Use Section III to identify any additional requirements not found in Section II. Section II is not a complete list of all applicable requirements. It does not include recently adopted NESHAP regulations by EPA or recent amendments to AQMD rules. Do not add rules listed in Section V here.
4. **Identify any requirements that do not apply to a specific piece of equipment or process:** Also use Section III to identify any requirements that are listed in Section II but that do not apply to a specific piece of equipment or process. Fill out Section III of this form and attach a separate sheet to explain the reason(s) why the identified rules do not apply. Listing any requirement that does not apply to a specific piece of equipment will not provide the facility with a permit shield unless one is specifically requested by completing Form 500-D and is approved by AQMD.
5. **Identify SIP-approved rules that are not current AQMD rules:** Use Section IV to identify older versions of current AQMD rules that are the EPA-approved versions in the Implementation Plan (SIP), and that are still applicable requirements as defined by EPA. The facility is not required to certify compliance with the items checked in Section IV.
6. **Identify Local-Only Enforceable Regulatory Requirements:** Use Section V to identify AQMD rules that are not SIP-approved and are not federally enforceable.
7. **Determine compliance:** Determine if all equipment and processes are complying with all requirements identified in Sections II and III. If each piece of equipment complies with all applicable requirements, complete and attach Form 500-A2 to certify the compliance status of the facility. If any piece of equipment is not in compliance with any of the applicable requirements, complete and attach Form 500-C2 in addition to Form 500-A2.

\* The following AQMD rules and regulations are not required to be included in Section II and do not have to be added to Section III: Regulation I, List and Criteria in Regulation I, Rule 201, Rule 201.1, Rule 202, Rule 203, Rule 205, Rule 206, Rule 207, Rule 208, Rule 209, Rule 210, Rule 212, Rule 214, Rule 215, Rule 216, Rule 217, Rule 219, Rule 220, Rule 221, Regulation III, Regulation V, Regulation VIII, Regulation XII, Regulation XV, Regulation XVI, Regulation XIX, Regulation XXI, Regulation XXII, and Regulation XXX.



Section EQUIPMENT	Applicable Requirements, Test Methods, & MRR Requirements PROCESS	TEST METHOD	MRR REQUIREMENTS MRR REQUIREMENTS	NT
<input type="checkbox"/> All Air Pollution Control Equipment Using Combustion (RECLAIM & non-RECLAIM sources)	<input type="checkbox"/> Rule 480 (10/07/77)	N/A	N/A	
<input type="checkbox"/> All Coating Operations	<input type="checkbox"/> Rule 442 (03/05/82)	<input type="checkbox"/> AQMD TM 25.1		
<input type="checkbox"/> All Combustion Equipment, $\geq 555$ Mmbtu/Hr (except for NOx RECLAIM sources)	<input type="checkbox"/> Rule 474 (12/04/81)	<input type="checkbox"/> AQMD TM 7.1 or 100.1		
<input checked="" type="checkbox"/> All Combustion Equipment Except Internal Combustion Engines (RECLAIM & non-RECLAIM sources)	<input checked="" type="checkbox"/> Rule 407 (04/02/82) <input checked="" type="checkbox"/> Rule 409 (08/07/81)	<input type="checkbox"/> AQMD TM 100.1 or 10.1, 307-91 <input checked="" type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3		
<input type="checkbox"/> All Combustion Equipment Using Gaseous Fuel (except SOx RECLAIM sources)	<input checked="" type="checkbox"/> Rule 431.1 (06/12/98)	<input type="checkbox"/> Rule 431.1 (f)	<input checked="" type="checkbox"/> Rule 431.1 (d) & (e)	
<input type="checkbox"/> All Combustion Equipment Using Liquid Fuel (except SOx RECLAIM sources)	<input type="checkbox"/> Rule 431.2 (05/04/90)	<input type="checkbox"/> Rule 431.2(d)	<input type="checkbox"/> Rule 431.2(c)	
<input type="checkbox"/> All Combustion Equipment Using Fossil Fuel (except SOx RECLAIM sources)	<input type="checkbox"/> Rule 431.3 (05/07/76)			
<input checked="" type="checkbox"/> All Equipment	<input checked="" type="checkbox"/> Rule 401 (09/11/98)  <input checked="" type="checkbox"/> Rule 405 (02/07/86) <input checked="" type="checkbox"/> Rule 408 (05/07/76) <input checked="" type="checkbox"/> Rule 430 (07/12/96) <input checked="" type="checkbox"/> Rule 701 (06/13/97) <input checked="" type="checkbox"/> New Source Review, BACT <input checked="" type="checkbox"/> Rule 1703 (10/07/88) <input checked="" type="checkbox"/> 40 CFR68 - Accidental Release Prevention	<input checked="" type="checkbox"/> California Air Resources Board Visible Emission Evaluation <input checked="" type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3  N/A  See Applicable Subpart	<input checked="" type="checkbox"/> Rule 430(b)  See Applicable Subpart	
<input type="checkbox"/> All Equipment Processing Solid Materials	<input type="checkbox"/> Rule 403 (12/11/98)	<input type="checkbox"/> Rule 403(d)(4)	<input type="checkbox"/> Rule 403(f)	
<input checked="" type="checkbox"/> All Equipment With Exhaust Stack (except cement kilns subject to Rule 1112.1)	<input checked="" type="checkbox"/> Rule 404 (02/07/86)	<input checked="" type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3		
<input checked="" type="checkbox"/> All Facilities Using Solvents to Clean Various Items or Equipment	<input checked="" type="checkbox"/> Rule 1171 (10/08/99) <input checked="" type="checkbox"/> 40 CFR63 SUBPART T	<input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart	
<input checked="" type="checkbox"/> All RECLAIM Equipment (NOx & SOx)	<input checked="" type="checkbox"/> Reg. XX - RECLAIM	<input type="checkbox"/> Rule 2011, App. A (04/09/99) <input checked="" type="checkbox"/> Rule 2012, App. A (04/09/99)	<input type="checkbox"/> Rule 2011, App. A (04/09/99) <input checked="" type="checkbox"/> Rule 2012, App. A (04/09/99)	
<input type="checkbox"/> Abrasive Blasting	<input type="checkbox"/> Rule 1140 (08/02/85)	<input type="checkbox"/> Rule 1140(d), AQMD Visible Emission Method		
<input type="checkbox"/> Appliances Containing Ozone Depleting Substances (except Motor Vehicle Air Conditioners): Manufacturing, Repair, Maintenance, Service, & Disposal	<input type="checkbox"/> 40 CFR82 SUBPART F	See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Asphalt	See Manufacturing, Asphalt Processing & Asphalt Roofing			
<input type="checkbox"/> Asphalt Concrete/Batch Plants	<input type="checkbox"/> 40 CFR60 SUBPART I	See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Benzene Emissions, Maleic Anhydride Plants,	<input type="checkbox"/> Rule 1173 (05/13/94)	<input type="checkbox"/> Rule 1173(h)	<input type="checkbox"/> Rule 1173(g)	



Section	Applicable Requirements, Test Methods, & MRR Requirements			
EQUIPMENT	PROCESS	APPLICABLE REQUIREMENTS	TEST METHOD	MRR REQUIREMENTS
	Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, & Coke By-Product Recovery Plants	<input type="checkbox"/> Rule 1176 (09/13/96) <input type="checkbox"/> 40 CFR61 SUBPART L <input type="checkbox"/> 40 CFR61 SUBPART Y <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 1176(h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/>	Benzene Transfer Operations	<input type="checkbox"/> Rule 1142 (07/19/91) <input type="checkbox"/> 40 CFR61 SUBPART BB <input type="checkbox"/> 40 CFR63 SUBPART Y	<input type="checkbox"/> Rule 1142 (e) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1142(h) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/>	Benzene Waste Operations	<input type="checkbox"/> Rule 1176 (09/13/96) <input type="checkbox"/> 40 CFR61 SUBPART FF <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 1176(h) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/>	Beryllium Emissions	<input type="checkbox"/> 40 CFR61 SUBPART C	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/>	Beryllium Emissions, Rocket Motor Firing	<input type="checkbox"/> 40 CFR61 SUBPART D	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/>	Boiler, < 5 Mmbtu/Hr (non-RECLAIM sources)	<input type="checkbox"/> Rule 1146.1 (05/13/94)	<input type="checkbox"/> Rule 1146.1(d)	<input type="checkbox"/> Rule 1146.1(c)(2) & (c)(3)
<input type="checkbox"/>	Boiler, < 5 Mmbtu/Hr (RECLAIM sources)	<input type="checkbox"/> Rule 1146.1 (05/13/94) - excluding NOx requirements	<input type="checkbox"/> Rule 1146.1(d)	<input type="checkbox"/> Rule 1146.1(c)(2) & (c)(3)
<input type="checkbox"/>	Boiler, ≥ 5 Mmbtu/Hr (non-RECLAIM sources)	<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 429 (12/21/90) <input type="checkbox"/> Rule 475 (08/07/78) <input type="checkbox"/> Rule 476 (10/08/76) <input type="checkbox"/> Rule 1146 (11/17/00) <input type="checkbox"/> 40 CFR60 SUBPART D <input type="checkbox"/> 40 CFR60 SUBPART Da <input type="checkbox"/> 40 CFR60 SUBPART Dc	<input type="checkbox"/> AQMD TM 100.1 N/A <input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 <input type="checkbox"/> AQMD TM 7.1, 100.1, 5.1, 5.2, or 5.3 <input type="checkbox"/> Rule 1146(d) See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 218(e) <input type="checkbox"/> Rule 429(d)  <input type="checkbox"/> Rule 1146(c)(2) & (c)(3) See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/>	Boiler, ≥ 5 Mmbtu/Hr (RECLAIM sources)	<input checked="" type="checkbox"/> Rule 2011 (04/09/99) <u>or</u> Rule 2012 (04/09/99) <input checked="" type="checkbox"/> Rule 475 (08/07/78) <input checked="" type="checkbox"/> Rule 476 (10/08/76) - excluding NOx requirements <input checked="" type="checkbox"/> Rule 1146 (11/17/00) - excluding NOx requirements <input type="checkbox"/> 40 CFR60 SUBPART D <input checked="" type="checkbox"/> 40 CFR60 SUBPART Da <input type="checkbox"/> 40 CFR60 SUBPART Dc	<input checked="" type="checkbox"/> Rule 2011, App. A (04/09/99) <u>or</u> Rule 2012, App. A (04/09/99) <input checked="" type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 <input checked="" type="checkbox"/> AQMD TM 7.1, 100.1, 5.1, 5.2, or 5.3  <input checked="" type="checkbox"/> Rule 1146(d) See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input checked="" type="checkbox"/> Rule 2011, App. A (04/09/99) <u>or</u> Rule 2012, App. A (04/09/99)  <input checked="" type="checkbox"/> Rule 1146(c)(2) & (c)(3) See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/>	Boiler, Petroleum Refining (non-RECLAIM sources)	<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 429 (12/21/90) <input type="checkbox"/> Rule 431.1 (06/12/98) <input type="checkbox"/> Rule 475 (08/07/78) <input type="checkbox"/> Rule 1146 (11/17/00) <input type="checkbox"/> 40 CFR60 SUBPART J	<input type="checkbox"/> AQMD TM 100.1 N/A <input type="checkbox"/> Rule 431.1 (f) <input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 <input type="checkbox"/> Rule 1146(d) See Applicable Subpart	<input type="checkbox"/> Rule 218(e) <input type="checkbox"/> Rule 429(d) <input type="checkbox"/> Rule 431.1 (d) & (e)  <input type="checkbox"/> Rule 1146(c)(2) & (c)(3) See Applicable Subpart
<input type="checkbox"/>	Boiler, Petroleum Refining (RECLAIM sources)	<input type="checkbox"/> Rule 2011 (04/09/99) <u>or</u> Rule 2012 (04/09/99)	<input type="checkbox"/> Rule 2011, App. A (04/09/99) <u>or</u> Rule 2012, App. A (04/09/99)	<input type="checkbox"/> Rule 2011, App. A (04/09/99) <u>or</u> Rule 2012, App. A (04/09/99)

**KEY ABBREVIATIONS:**

Reg.= AQMD Regulation  
Rule = AQMD Rule

App. = Appendix  
AQMD TM = AQMD Test Method

CFR = Code of Federal Regulations  
CCR = California Code of Regulations

**AQMD Form 500-C1**

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Section	Applicable Requirements, Test Methods, & MRR Requirements			
EQUIPMENT	PROCESS	APPLICABLE REQUIREMENTS	TEST METHOD	MRR REQUIREMENTS
		<input type="checkbox"/> Rule 1146 (11/17/00) - excluding NOx requirements <input type="checkbox"/> 40 CFR60 SUBPART J	<input type="checkbox"/> Rule 1146(d)  See Applicable Subpart	<input type="checkbox"/> Rule 1146(c)(2) & (c)(3)  See Applicable Subpart
<input type="checkbox"/> Boilers, Electric Utility (non-RECLAIM sources)		<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 429 (12/21/90) <input type="checkbox"/> Rule 1135 (07/19/91) <input type="checkbox"/> 40 CFR60 SUBPART Db	<input type="checkbox"/> AQMD TM 100.1 N/A <input type="checkbox"/> Rule 1135(e) See Applicable Subpart	<input type="checkbox"/> Rule 218(e) <input type="checkbox"/> Rule 429(d) <input type="checkbox"/> Rule 1135(e) See Applicable Subpart
<input type="checkbox"/> Boilers, Electric Utility (RECLAIM sources)		<input type="checkbox"/> Rule 2012 (04/11/97) <input type="checkbox"/> 40 CFR60 SUBPART Db	<input type="checkbox"/> Rule 2012, App. A (04/11/97) See Applicable Subpart	<input type="checkbox"/> Rule 2012, App. A (04/11/97) See Applicable Subpart
<input type="checkbox"/> Bulk Loading Of Organic Liquids		<input type="checkbox"/> Rule 462 (05/14/99) <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR60 SUBPART XX	<input type="checkbox"/> Rule 462(f) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 462(g) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Calciner, Mineral Industries		<input type="checkbox"/> 40 CFR60 SUBPART UUU	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Calciner, Petroleum Coke		<input type="checkbox"/> Rule 477 (04/03/81)  <input type="checkbox"/> Rule 1119 (03/02/79) <input type="checkbox"/> 40 CFR63 SUBPART L	<input type="checkbox"/> AQMD Visible Emissions, AQMD TM 5.1, 5.2, or 5.3 <input type="checkbox"/> AQMD TM 6.1 or 100.1 See Applicable Subpart	  See Applicable Subpart
<input type="checkbox"/> Charbroilers		<input type="checkbox"/> Rule 1174 (10/05/90)	<input type="checkbox"/> AQMD Test Protocol	
<input type="checkbox"/> Chrome Plating & Chromic Acid Anodizing Operation		<input type="checkbox"/> 40 CFR63 SUBPART N	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Coating Operation, Adhesive Application Operation		<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1168 (08/15/00) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART RR	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1)  <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Aerospace Assembly & Component Manufacturing		<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1124 (12/13/96) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR63 SUBPART GG	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1124(e) & (f) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1)  <input type="checkbox"/> Rule 1124 (j) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Graphic Arts (Gravure, Letter Press, Flexographic & Lithographic Printing Process, Etc.)		<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1130 (10/08/99) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART RR <input type="checkbox"/> 40 CFR60 SUBPART QQ <input type="checkbox"/> 40 CFR60 SUBPART FFF <input type="checkbox"/> 40 CFR60 SUBPART VVV <input type="checkbox"/> 40 CFR63 SUBPART KK	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1130 (h) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1)  <input type="checkbox"/> Rule 1130 (e) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Coating Operation, Magnet Wire Coating Operations		<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1126 (01/13/95)	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1126(d)	<input type="checkbox"/> Rule 109(c)(1)  <input type="checkbox"/> Rule 1126(c)(4) & Rule 109



Section/ EQUIPMENT	PROCESS	Applicable Requirements, Test Methods, & MRR Requirements	TEST METHOD	MRR REQUIREMENTS
<input type="checkbox"/> Coating Operation, Marine Coating (Except for recreational equipment)	<input type="checkbox"/> Rule 1171 (10/08/99)	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1106 (01/13/95) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR63 SUBPART II	<input type="checkbox"/> Rule 1171(f) <input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1106(e) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 1171(c)(7) <input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1106(c)(5) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Metal Coating	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1107 (08/14/98) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART EE <input type="checkbox"/> 40 CFR60 SUBPART SS	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1107 (08/14/98) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART EE <input type="checkbox"/> 40 CFR60 SUBPART SS	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1107(f) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1107(k) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Coating Operation, Metal Containers, Closure, & Coil Coating Operations	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1125 (01/13/95) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART TT <input type="checkbox"/> 40 CFR60 SUBPART WW	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1125 (01/13/95) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART TT <input type="checkbox"/> 40 CFR60 SUBPART WW	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1125(e) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1125(c)(6) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Coating Operation, Motor Vehicle & Mobile Equipment Non-Assembly Line Coating Operation	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1151 (12/11/98) <input type="checkbox"/> Rule 1171 (10/08/99)	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1151 (12/11/98) <input type="checkbox"/> Rule 1171 (10/08/99)	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1151(g) <input type="checkbox"/> Rule 1171(f)	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1151(f) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7)
<input type="checkbox"/> Coating Operation, Motor Vehicle Assembly Line	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1115 (05/12/95) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART MM	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1115 (05/12/95) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART MM	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1115(e) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1115(g) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Paper, Fabric, & Film Coating Operations	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1128 (03/08/96) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART VVV	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1128 (03/08/96) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART VVV	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1128(f) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1128(e) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Plastic, Rubber, & Glass	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1145 (02/14/97) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART TTT	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1145 (02/14/97) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART TTT	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1145(e) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1145(d) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart

<input type="checkbox"/> Coating Operation, Pleasure Craft	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78)	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications	<input type="checkbox"/> Rule 109(c)(1)
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Section	Applicable Requirements, Test Methods, & MRR Requirements			TEST METHOD	MRR REQUIREMENTS	NT
EQUIPMENT	PROCESS	APPLICABLE REQUIREMENTS		TEST METHOD		NT
		<input type="checkbox"/> Rule 1106.1 (02/12/99)		<input type="checkbox"/> Rule 1106.1(e)	<input type="checkbox"/> Rule 1106.1(d) & Rule 109	
		<input type="checkbox"/> Rule 1171 (10/08/99)		<input type="checkbox"/> Rule 1171(f)	<input type="checkbox"/> Rule 1171(c)(7)	
		<input type="checkbox"/> 40 CFR63 SUBPART II		See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Coating Operation, Screen Printing		<input type="checkbox"/> Rule 109 (08/18/00)		<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4)	<input type="checkbox"/> Rule 109(c)(1)	
		<input type="checkbox"/> Rule 481 (05/05/78)		Manufacturer's Specifications		
		<input type="checkbox"/> Rule 1130.1 (12/13/96)		<input type="checkbox"/> Rule 1130.1(g)	<input type="checkbox"/> Rule 1130.1(c)(5) & Rule 109	
		<input type="checkbox"/> Rule 1171 (10/08/99)		<input type="checkbox"/> Rule 1171(f)	<input type="checkbox"/> Rule 1171(c)(7)	
		<input type="checkbox"/> 40 CFR63 SUBPART KK		See Applicable Subpart	See Applicable Subpart	
<input checked="" type="checkbox"/> Coating Operation, Use Of Architectural Coating (Stationary Structures)		<input checked="" type="checkbox"/> Rule 481 (05/05/78)		Manufacturer's Specifications		
		<input checked="" type="checkbox"/> Rule 1113 (05/14/99)		<input checked="" type="checkbox"/> Rule 1113(e)		
		<input checked="" type="checkbox"/> Rule 1171 (10/08/99)		<input checked="" type="checkbox"/> Rule 1171(f)	<input checked="" type="checkbox"/> Rule 1171(c)(7)	
<input type="checkbox"/> Coating Operation, Wood Flat Stock		<input type="checkbox"/> Rule 109 (08/18/00)		<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4)	<input type="checkbox"/> Rule 109(c)(1)	
		<input type="checkbox"/> Rule 481 (05/05/78)		Manufacturer's Specifications		
		<input type="checkbox"/> Rule 1104 (08/13/99)		<input type="checkbox"/> Rule 1104(e)	<input type="checkbox"/> Rule 1104(d) & Rule 109	
		<input type="checkbox"/> Rule 1171 (10/08/99)		<input type="checkbox"/> Rule 1171(f)	<input type="checkbox"/> Rule 1171(c)(7)	
		<input type="checkbox"/> 40 CFR63 SUBPART II		See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Coating Operation, Wood Products (Commercial Furniture, Cabinets, Shutters, Frames, Toys)		<input type="checkbox"/> Rule 109 (08/18/00)		<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4)	<input type="checkbox"/> Rule 109(c)(1)	
		<input type="checkbox"/> Rule 481 (05/05/78)		Manufacturer's Specifications		
		<input type="checkbox"/> Rule 1136 (06/14/96)		<input type="checkbox"/> Rule 1136(f)	<input type="checkbox"/> Rule 1136(d) & (g) & Rule 109	
		<input type="checkbox"/> Rule 1171 (10/08/99)		<input type="checkbox"/> Rule 1171(f)	<input type="checkbox"/> Rule 1171(c)(7)	
		<input type="checkbox"/> 40 CFR63 SUBPART JJ		See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Coater		See Coating Operations				
<input type="checkbox"/> Columns		See Petroleum Refineries, Fugitive Emissions				
<input type="checkbox"/> Compressors		See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions				
<input type="checkbox"/> Concrete Batch Plants		See Nonmetallic Mineral Processing Plants				
<input type="checkbox"/> Consumer Product Manufacturing		See Manufacturing, Consumer Product				
<input type="checkbox"/> Cooling Tower, Hexavalent Chromium		<input type="checkbox"/> 40 CFR63 SUBPART Q		See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Crude Oil Production		See Oil Well Operations				
<input type="checkbox"/> Crusher		See Nonmetallic Mineral Processing Plants				
<input type="checkbox"/> Degreasers		<input type="checkbox"/> Rule 1122 (07/11/97)		<input type="checkbox"/> Rule 1122(i)	<input type="checkbox"/> Rule 1122(j) & Rule 109	
		<input type="checkbox"/> Rule 1171 (10/08/99)		<input type="checkbox"/> Rule 1171(f)	<input type="checkbox"/> Rule 1171(c)(7)	
		<input type="checkbox"/> 40 CFR63 SUBPART T		See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Dry Cleaning, Perchloroethylene		<input type="checkbox"/> Rule 1421 (06/13/97)		<input type="checkbox"/> Rule 1421 (e), (g), (h), & (i)	<input type="checkbox"/> Rule 1421(j)	
<input type="checkbox"/> Dry Cleaning, Petroleum Solvent		<input type="checkbox"/> Rule 1102 (11/17/00)		<input type="checkbox"/> Rule 1102(g)	<input type="checkbox"/> Rule 1102(f) & Rule 109	
		<input type="checkbox"/> 40 CFR60 SUBPART JJJ		See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Dryers, Mineral Industries		<input type="checkbox"/> 40 CFR60 SUBPART UUU		See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Ethylene Oxide Sterilizer		See Sterilizer, Ethylene Oxide				
<input type="checkbox"/> Flanges		See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions				
<input type="checkbox"/> Fluid Catalytic Cracking Unit		<input type="checkbox"/> Rule 218 (05/14/99)		<input type="checkbox"/> AQMD TM 100.1	<input type="checkbox"/> Rule 218(e)	
		<input type="checkbox"/> Rule 1105 (09/01/84)		<input type="checkbox"/> Rule 1105(c)(1)	<input type="checkbox"/> Rule 1105(c)(2)	
<input type="checkbox"/> Fugitive Emissions, Benzene		<input type="checkbox"/> Rule 1173 (05/13/94)		<input type="checkbox"/> Rule 1173(h)	<input type="checkbox"/> Rule 1173(g)	
		<input type="checkbox"/> 40 CFR61 SUBPART L		See Applicable Subpart	See Applicable Subpart	

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Section		Applicable Requirements, Test Methods, & MRR Requirements			TEST METHOD		MRR REQUIREMENTS	
EQUIPMENT	PROCESS	APPLICABLE REQUIREMENTS						
		<input type="checkbox"/> 40 CFR61 SUBPART V			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART R			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART CC			See Applicable Subpart		See Applicable Subpart	
<input type="checkbox"/>	Fugitive Emissions, Chemical Plant	<input type="checkbox"/> Rule 466 (10/07/83)			<input type="checkbox"/> Rule 466(f)		<input type="checkbox"/> Rule 466(e)	
		<input type="checkbox"/> Rule 466.1 (03/16/84)			<input type="checkbox"/> Rule 466.1(g)		<input type="checkbox"/> Rule 466.1(h)	
		<input type="checkbox"/> Rule 467 (03/05/82)			<input type="checkbox"/> Rule 467(f)		<input type="checkbox"/> Rule 467(e)	
		<input type="checkbox"/> Rule 1173 (05/13/94)			<input type="checkbox"/> Rule 1173(h)		<input type="checkbox"/> Rule 1173(g)	
		<input type="checkbox"/> 40 CFR60 SUBPART VV			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR61 SUBPART V			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART F			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART G			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART H			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART I			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART R			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART CC			See Applicable Subpart		See Applicable Subpart	
<input type="checkbox"/>	Fugitive Emissions, Natural Gas Processing Plant	<input type="checkbox"/> Rule 466 (10/07/83)			<input type="checkbox"/> Rule 466(f)		<input type="checkbox"/> Rule 466(e)	
		<input type="checkbox"/> Rule 466.1 (03/16/84)			<input type="checkbox"/> Rule 466.1(g)		<input type="checkbox"/> Rule 466.1(h)	
		<input type="checkbox"/> Rule 467 (03/05/82)			<input type="checkbox"/> Rule 467(f)		<input type="checkbox"/> Rule 467(e)	
		<input type="checkbox"/> Rule 1173 (05/13/94)			<input type="checkbox"/> Rule 1173(h)		<input type="checkbox"/> Rule 1173(g)	
		<input type="checkbox"/> 40 CFR60 SUBPART KKK			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR61 SUBPART V			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART F			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART G			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART H			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART I			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART R			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART CC			See Applicable Subpart		See Applicable Subpart	
<input type="checkbox"/>	Fugitive Emissions, Oil & Gas Production Facility	<input type="checkbox"/> Rule 466 (10/07/83)			<input type="checkbox"/> Rule 466(f)		<input type="checkbox"/> Rule 466(e)	
		<input type="checkbox"/> Rule 466.1 (03/16/84)			<input type="checkbox"/> Rule 466.1(g)		<input type="checkbox"/> Rule 466.1(h)	
		<input type="checkbox"/> Rule 467 (03/05/82)			<input type="checkbox"/> Rule 467(f)		<input type="checkbox"/> Rule 467(e)	
		<input type="checkbox"/> Rule 1173 (05/13/94)			<input type="checkbox"/> Rule 1173(h)		<input type="checkbox"/> Rule 1173(g)	
		<input type="checkbox"/> 40 CFR61 SUBPART V			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART F			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART G			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART H			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART I			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART R			See Applicable Subpart		See Applicable Subpart	
		<input type="checkbox"/> 40 CFR63 SUBPART CC			See Applicable Subpart		See Applicable Subpart	
<input type="checkbox"/>	Fugitive Emissions, Pipeline Transfer Station	<input type="checkbox"/> Rule 466 (10/07/83)			<input type="checkbox"/> Rule 466(f)		<input type="checkbox"/> Rule 466(e)	
		<input type="checkbox"/> Rule 466.1 (03/16/84)			<input type="checkbox"/> Rule 466.1(g)		<input type="checkbox"/> Rule 466.1(h)	
		<input type="checkbox"/> Rule 467 (03/05/82)			<input type="checkbox"/> Rule 467(f)		<input type="checkbox"/> Rule 467(e)	
		<input type="checkbox"/> Rule 1173 (05/13/94)			<input type="checkbox"/> Rule 1173(h)		<input type="checkbox"/> Rule 1173(g)	
		<input type="checkbox"/> 40 CFR61 SUBPART V			See Applicable Subpart		See Applicable Subpart	
<b>KEY ABBREVIATIONS:</b>		Reg. = AQMD Regulation	App. = Appendix	CFR = Code of Federal Regulations	AQMD Form 500-C1		Rev.	
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Section	Applicable Requirements, Test Methods, & MRR Requirements	Test Methods	MRR Requirements	
EQUIPMENT	PROCESS	APPLICABLE REQUIREMENTS	TEST METHOD	MRR REQUIREMENTS
		<input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Furnace, Basic Oxygen Process		<input type="checkbox"/> 40 CFR60 SUBPART Na	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Furnace, Electric Arc, For Steel Plants Constructed After August 17, 1983		<input type="checkbox"/> 40 CFR60 SUBPART AAa	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Furnace, Electric Arc, For Steel Plants: Constructed After Oct. 21, 1974, & On Or Before Aug. 17, 1983		<input type="checkbox"/> 40 CFR60 SUBPART AA	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Furnace, Glass Melting		<input type="checkbox"/> Rule 1117 (01/06/84)	<input type="checkbox"/> Rule 1117 (c), AQMD TM 7.1 or 100.1	
<input type="checkbox"/> Furnace, Lead Melting, Automotive Batteries		<input type="checkbox"/> Rule 1101 (10/07/77) <input type="checkbox"/> 40 CFR63 SUBPART X	<input type="checkbox"/> AQMD TM 6.1 See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Gasoline Transfer & Dispensing Operation		<input type="checkbox"/> Rule 461 (04/21/00)	<input type="checkbox"/> Rule 461 (d)	<input type="checkbox"/> Rule 461 (c)(7)
<input type="checkbox"/> Glass Manufacturing		See Manufacturing, Glass		
<input type="checkbox"/> Grain Elevators		<input type="checkbox"/> 40 CFR60 SUBPART DD	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Halon-containing Equipment, Use for Technician Training, Testing, Maintenance, Service, Repair, or Disposal		<input type="checkbox"/> 40 CFR82 SUBPART H	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Heater, Asphalt Pavement		<input type="checkbox"/> Rule 1120 (08/04/78)	<input type="checkbox"/> AQMD Visible Emissions, AQMD TM 6.2	<input type="checkbox"/> Rule 1120(f)
<input type="checkbox"/> Heaters, Petroleum Refinery Process		<input type="checkbox"/> Rule 429 (12/21/90) <input type="checkbox"/> Rule 431.1 (06/12/98) <input type="checkbox"/> Rule 1146 (11/17/00) <input type="checkbox"/> 40 CFR60 SUBPART J	<input type="checkbox"/> N/A <input type="checkbox"/> Rule 431.1(f) <input type="checkbox"/> Rule 1146(d) See Applicable Subpart	<input type="checkbox"/> Rule 429(d) <input type="checkbox"/> Rule 431.1(d) & (e) <input type="checkbox"/> Rule 1146(c)(2) & (c)(3) See Applicable Subpart
<input type="checkbox"/> Heaters, Process		See Boilers		
<input type="checkbox"/> Incinerators		<input type="checkbox"/> 40 CFR60 SUBPART E	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Inorganic Arsenic Emissions, Arsenic Trioxide & Metallic Arsenic Production Facilities		<input type="checkbox"/> 40 CFR61 SUBPART P	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Kiln, Cement Plant		<input type="checkbox"/> Rule 1112.1 (02/07/86) <input type="checkbox"/> 40 CFR60 SUBPART F	N/A See Applicable Subpart	N/A See Applicable Subpart
<input type="checkbox"/> Landfills		<input type="checkbox"/> Rule 1150.1 (04/10/98) <input type="checkbox"/> 40 CFR60 SUBPART WWW	<input type="checkbox"/> Rule 1150.1(j) See Applicable Subpart	<input type="checkbox"/> Rule 1150.1(e) & (f) See Applicable Subpart
<input type="checkbox"/> Lead Acid Battery Manufacturing Plants		See Manufacturing, Lead Acid Battery		
<input type="checkbox"/> Manufacturing, Asphalt Processing & Asphalt Roofing		<input type="checkbox"/> Rule 1108 (02/01/85) <input type="checkbox"/> Rule 1108.1 (11/04/83) <input type="checkbox"/> Rule 470 (05/07/76) <input type="checkbox"/> 40 CFR60 SUBPART UU	<input type="checkbox"/> Rule 1108 (b) <input type="checkbox"/> Rule 1108.1 (b) N/A See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Coatings & Ink Manufacturing (SIC Code 2851)		<input type="checkbox"/> Rule 1141.1 (03/06/92)	N/A	<input type="checkbox"/> Rule 1141.1(c)

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Section	Applicable Requirements, Test Methods, & MRR Requirements		
EQUIPMENT	PROCESS	APPLICABLE REQUIREMENTS	TEST METHOD
<input type="checkbox"/> Manufacturing, Consumer Product	<input type="checkbox"/> Title 17 CCR 94500		
<input type="checkbox"/> Manufacturing, Glass	<input type="checkbox"/> Rule 1117 (01/06/84)	<input type="checkbox"/> Rule 1117 (c), AQMD TM 7.1 or 100.1	
	<input type="checkbox"/> 40 CFR60 SUBPART CC	See Applicable Subpart	See Applicable Subpart
	<input type="checkbox"/> 40 CFR61 SUBPART N	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Lead-Acid Battery	<input type="checkbox"/> 40 CFR60 SUBPART KK	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Magnetic Tape Industry	<input type="checkbox"/> 40 CFR60 SUBPART SSS	See Applicable Subpart	See Applicable Subpart
	<input type="checkbox"/> 40 CFR63 SUBPART EE	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Nitric Acid	<input type="checkbox"/> Rule 218 (05/14/99)	<input type="checkbox"/> AQMD TM 100.1	<input type="checkbox"/> Rule 218(e)
	<input type="checkbox"/> Rule 1159 (12/06/85)	<input type="checkbox"/> AQMD TM 7.1 or 100.1	
	<input type="checkbox"/> 40 CFR60 SUBPART G	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Polymer Industry	<input type="checkbox"/> 40 CFR60 SUBPART DDD	See Applicable Subpart	See Applicable Subpart
	<input type="checkbox"/> 40 CFR63 SUBPART W	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Polymeric Cellular Foam	<input type="checkbox"/> Rule 1175 (05/13/94)	<input type="checkbox"/> Rule 1175(f)	<input type="checkbox"/> Rule 1175(e)
<input type="checkbox"/> Manufacturing, Products Containing Halon Blends	<input type="checkbox"/> 40 CFR82 SUBPART H	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Products Containing Ozone Depleting Substances (ODS)	<input type="checkbox"/> 40 CFR82 SUBPART A	See Applicable Subpart	See Applicable Subpart
	<input type="checkbox"/> 40 CFR82 SUBPART E	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Resin	<input type="checkbox"/> Rule 1141 (04/03/92)	<input type="checkbox"/> Rule 1141(d)	<input type="checkbox"/> Rule 1141(c)
	<input type="checkbox"/> 40 CFR63 SUBPART W	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Semiconductors	<input type="checkbox"/> Rule 1164 (01/13/95)	<input type="checkbox"/> Rule 1164(e)	<input type="checkbox"/> Rule 1164(c)(5)
	<input type="checkbox"/> Rule 1171 (10/08/99)	<input type="checkbox"/> Rule 1171(f)	<input type="checkbox"/> Rule 1171(c)(7)
<input type="checkbox"/> Manufacturing, Solvent	<input type="checkbox"/> Rule 443 (05/07/76)		
<input type="checkbox"/> Manufacturing, Sulfuric Acid	<input type="checkbox"/> Rule 469 (02/12/81)	<input type="checkbox"/> AQMD TM 6.1 or 6.2	
	<input type="checkbox"/> 40 CFR60 SUBPART H	See Applicable Subpart	See Applicable Subpart
	<input type="checkbox"/> 40 CFR60 SUBPART Cb	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Surfactant	<input type="checkbox"/> Rule 1141.2 (07/06/84)	<input type="checkbox"/> AQMD TM 25.1	
<input type="checkbox"/> Manufacturing, Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes	<input type="checkbox"/> 40 CFR60 SUBPART III	See Applicable Subpart	See Applicable Subpart
	<input type="checkbox"/> 40 CFR60 SUBPART NNN	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes	<input type="checkbox"/> 40 CFR60 SUBPART RRR	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Vinyl Chloride	<input type="checkbox"/> 40 CFR61 SUBPART F	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Wool Fiberglass Insulation	<input type="checkbox"/> 40 CFR60 SUBPART PPP	See Applicable Subpart	See Applicable Subpart



Section	Applicable Requirements, Test Methods, & MRR Requirements	Applicable Requirements	Test Method	MRR Requirements	NT
EQUIPMENT	PROCESS	APPLICABLE REQUIREMENTS	TEST METHOD	MRR REQUIREMENTS	NT
<input type="checkbox"/> Marine Tank Vessel Operations		<input type="checkbox"/> Rule 1142 (07/19/91) <input type="checkbox"/> 40 CFR63 SUBPART Y	<input type="checkbox"/> Rule 1142 (e) See Applicable Subpart	<input type="checkbox"/> Rule 1142(h) See Applicable Subpart	
<input type="checkbox"/> Mercury Emissions		<input type="checkbox"/> 40 CFR61 SUBPART E	See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Motor Vehicle Air Conditioners with Ozone Depleting Substances (ODS): Repair, Service, Manufacturing, Maintenance, or Disposal		<input type="checkbox"/> 40 CFR82 SUBPART B <input type="checkbox"/> 40 CFR82 SUBPART F	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart	
<input type="checkbox"/> Municipal Waste Combustors		<input type="checkbox"/> 40 CFR60 SUBPART Ea <input type="checkbox"/> 40 CFR60 SUBPART Eb <input type="checkbox"/> 40 CFR60 SUBPART Cb	See Applicable Subpart See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart See Applicable Subpart	
<input type="checkbox"/> Negative Air Machines/HEPA, Asbestos		<input type="checkbox"/> 40 CFR61 SUBPART M	See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Nonmetallic Mineral Processing Plants		<input type="checkbox"/> Rule 404 (02/07/86) <input type="checkbox"/> Rule 405 (02/07/86) <input type="checkbox"/> 40 CFR60 SUBPART OOO	<input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 <input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Off-site Waste and Recovery Operation		<input type="checkbox"/> 40 CFR63 SUBPART DD	See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Oil Well Operation		<input type="checkbox"/> Rule 1148 (11/05/82)	<input type="checkbox"/> AQMD TM 25.1		
<input type="checkbox"/> Onshore Natural Gas Processing, SO <sub>2</sub> Emissions		<input type="checkbox"/> 40 CFR60 SUBPART LLL	See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Open Fires		<input type="checkbox"/> Rule 444 (10/02/87)			
<input type="checkbox"/> Open Storage, Petroleum Coke		<input type="checkbox"/> Rule 403 (12/11/98) <input type="checkbox"/> Rule 403.1 (01/15/93) <input type="checkbox"/> Rule 1158 (06/11/99)	<input type="checkbox"/> Rule 403(d)(4)  <input type="checkbox"/> Rule 1158 (h)	<input type="checkbox"/> Rule 403(f) <input type="checkbox"/> Rule 403.1(f) <input type="checkbox"/> Rule 1158(j)	
<input type="checkbox"/> Open Storage		<input type="checkbox"/> Rule 403 (12/11/98) <input type="checkbox"/> Rule 403.1 (01/15/93)	<input type="checkbox"/> Rule 403(d)(4)	<input type="checkbox"/> Rule 403(f) <input type="checkbox"/> Rule 403.1(f)	
<input type="checkbox"/> Outer Continental Shelf Platform		<input type="checkbox"/> Rule 1183 (03/12/93) <input type="checkbox"/> 40 CFR55	<input type="checkbox"/> 40 CFR55 See Applicable Subpart	<input type="checkbox"/> 40 CFR55 See Applicable Subpart	
<input type="checkbox"/> Oven, Commercial Bakery		<input type="checkbox"/> Rule 1153 (01/13/95)	<input type="checkbox"/> Rule 1153(h)	<input type="checkbox"/> Rule 1153(g)	
<input type="checkbox"/> Oven, Petroleum Coke		<input type="checkbox"/> Rule 477 (04/03/81)  <input type="checkbox"/> 40 CFR63 SUBPART L	<input type="checkbox"/> AQMD Visible Emissions, AQMD TM 5.1, 5.2, or 5.3 See Applicable Subpart	See Applicable Subpart	
<input type="checkbox"/> Ozone Depleting Substances (ODS) or Alternative ODS, Use		<input type="checkbox"/> 40 CFR82 Subpart G	See Applicable Subpart	See Applicable Subpart	



Section	Applicable Requirements, Test Methods, & MRR Requirements	NT		
EQUIPMENT	PROCESS	APPLICABLE REQUIREMENTS	TEST METHOD	MRR REQUIREMENTS
<input type="checkbox"/> Petroleum Refineries		<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 465 (08/13/99) <input type="checkbox"/> Rule 468 (10/08/76) <input type="checkbox"/> Rule 469 (02/13/81) <input type="checkbox"/> Rule 1123 (12/07/90) <input type="checkbox"/> 40 CFR60 SUBPART J <input type="checkbox"/> Title 13 CCR 2250 <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I	<input type="checkbox"/> AQMD TM 100.1  <input type="checkbox"/> AQMD TM 6.1 or 6.2 <input type="checkbox"/> AQMD TM 6.1 or 6.2 N/A See Applicable Subpart  See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 218(e)   <input type="checkbox"/> Rule 1123© See Applicable Subpart  See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Petroleum Refineries		<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 465 (08/13/99) <input type="checkbox"/> Rule 468 (10/08/76) <input type="checkbox"/> Rule 469 (02/13/81) <input type="checkbox"/> Rule 1123 (12/07/90) <input type="checkbox"/> 40 CFR60 SUBPART J <input type="checkbox"/> Title 13 CCR 2250 <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I	<input type="checkbox"/> AQMD TM 100.1  <input type="checkbox"/> AQMD TM 6.1 or 6.2 <input type="checkbox"/> AQMD TM 6.1 or 6.2 N/A See Applicable Subpart  See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 218(e)   <input type="checkbox"/> Rule 1123© See Applicable Subpart  See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Petroleum Refineries , Fugitive Emissions		<input type="checkbox"/> Rule 1173 (05/13/94) <input type="checkbox"/> Rule 466 (10/07/83) <input type="checkbox"/> Rule 466.1 (03/16/84) <input type="checkbox"/> Rule 467 (03/05/82) <input type="checkbox"/> 40 CFR60 SUBPART GGG <input type="checkbox"/> 40 CFR61 SUBPART V <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 1173(h) <input type="checkbox"/> Rule 466(f) <input type="checkbox"/> Rule 466.1(g) <input type="checkbox"/> Rule 467(f) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1173(g) <input type="checkbox"/> Rule 466(e) <input type="checkbox"/> Rule 466.1(h) <input type="checkbox"/> Rule 467(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart

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EQUIPMENT	PROCESS	APPLICABLE REQUIREMENTS		TEST METHOD		MRR REQUIREMENTS		
<input type="checkbox"/> Petroleum Refineries , Storage Tanks		<input type="checkbox"/> Rule 463 (03/11/94)		<input type="checkbox"/> Rule 463(g)		<input type="checkbox"/> Rule 463(e)(5)		
		<input type="checkbox"/> 40 CFR60 SUBPART K		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR60 SUBPART Ka		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR60 SUBPART Kb		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR63 SUBPART F		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR63 SUBPART G		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR63 SUBPART H		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR63 SUBPART I		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR63 SUBPART R		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR63 SUBPART CC		See Applicable Subpart		See Applicable Subpart		
<input type="checkbox"/> Petroleum Refineries, Wastewater Systems		<input type="checkbox"/> Rule 1176 (09/13/96)		<input type="checkbox"/> Rule 1176(h)		<input type="checkbox"/> Rule 1176(f) & (g)		
		<input type="checkbox"/> Rule 464 (12/07/90)		N/A				
		<input type="checkbox"/> 40 CFR60 SUBPART QQQ		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR63 SUBPART CC		See Applicable Subpart		See Applicable Subpart		
<input type="checkbox"/> Pharmaceuticals & Cosmetics Manufacturing		<input type="checkbox"/> Rule 1103 (03/12/99)		<input type="checkbox"/> Rule 1103(f)		<input type="checkbox"/> Rule 1103(e)		
<input type="checkbox"/> Polyester Resin Operation		<input type="checkbox"/> Rule 1162 (05/13/94)		<input type="checkbox"/> Rule 1162(f) & (g)		<input type="checkbox"/> Rule 1162(e)		
		<input type="checkbox"/> Rule 1171 (10/08/99)		<input type="checkbox"/> Rule 1171(f)		<input type="checkbox"/> Rule 1171(c)(7)		
<input type="checkbox"/> Printing Press		See Coating Operations						
<input type="checkbox"/> Pumps		See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions						
<input type="checkbox"/> Recycling & Recovery Equipment for Ozone Depleting Substances (ODS),		<input type="checkbox"/> 40 CFR82 SUBPART F		See Applicable Subpart		See Applicable Subpart		
<input type="checkbox"/> Refrigerant Reclaimers for Ozone Depleting Substances (ODS)		<input type="checkbox"/> 40 CFR82 SUBPART F		See Applicable Subpart		See Applicable Subpart		
<input type="checkbox"/> Rendering Plant		<input type="checkbox"/> Rule 472 (05/07/76)		N/A		<input type="checkbox"/> Rule 472(b)		
<input type="checkbox"/> Rock Crushing		See Nonmetallic Mineral Processing Plants						
<input type="checkbox"/> Sewage Treatment Plants		See Public Owned Treatment Works Operation						
<input type="checkbox"/> Smelting, Secondary Lead		<input type="checkbox"/> 40 CFR60 SUBPART L		See Applicable Subpart		See Applicable Subpart		
<input type="checkbox"/> Soil Decontamination		<input type="checkbox"/> Rule 1166 (07/14/95)		<input type="checkbox"/> Rule 1166 (b)(4)		<input type="checkbox"/> Rule 1166(c)(1)(C)		
<input type="checkbox"/> Spray Booth		See Coating Operations						
<input type="checkbox"/> Sterilizer, Ethylene Oxide		<input type="checkbox"/> 40 CFR63 SUBPART O		See Applicable Subpart		See Applicable Subpart		
<input type="checkbox"/> Storage Tank, Degassing Operation		<input type="checkbox"/> 40 CFR63 SUBPART CC		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> Rule 1149 (07/14/95)						
<input checked="" type="checkbox"/> Storage Tank, Greater Than 19,815 Gallon Capacity		<input checked="" type="checkbox"/> Rule 463 (03/11/94)		<input checked="" type="checkbox"/> Rule 463(g)		<input checked="" type="checkbox"/> Rule 463(e)(5)		
		<input type="checkbox"/> 40 CFR63 SUBPART F		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR63 SUBPART G		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR63 SUBPART H		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR63 SUBPART I		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR60 SUBPART K		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR60 SUBPART Ka		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR60 SUBPART Kb		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR63 SUBPART R		See Applicable Subpart		See Applicable Subpart		
		<input type="checkbox"/> 40 CFR63 SUBPART CC		See Applicable Subpart		See Applicable Subpart		



Section	Applicable Requirements, Test Methods, & MRR Requirements			
EQUIPMENT	PROCESS	APPLICABLE REQUIREMENTS	TEST METHOD	MRR REQUIREMENTS
<input type="checkbox"/> Synthetic Fiber Production Facilities		<input type="checkbox"/> 40 CFR60 SUBPART HHH	See Applicable Subpart	See Applicable Subpart
<input checked="" type="checkbox"/> Turbine, Stationary Gas Turbines		<input type="checkbox"/> Rule 1134 (08/08/97) <input checked="" type="checkbox"/> Rule 475 (08/07/78) <input checked="" type="checkbox"/> 40 CFR60 SUBPART GG	<input type="checkbox"/> CEMS Rule 1134(e) & (g) <input checked="" type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 See Applicable Subpart	<input type="checkbox"/> Rule 1134(d) & (f)  See Applicable Subpart
<input type="checkbox"/> Valves		See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		
<input type="checkbox"/> Vessel, Refinery Process		<input type="checkbox"/> Rule 1123 (12/07/90)	N/A	<input type="checkbox"/> Rule 1123(c)
<input type="checkbox"/> Vessels		See Petroleum Refineries, Fugitive Emissions		
<input type="checkbox"/> Wastewater, Chemical Plant		<input type="checkbox"/> Rule 1176 (09/13/96) <input type="checkbox"/> Rule 464 (12/07/90) <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 1176(h) N/A See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1176(f) & (g)  See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Wastewater Treatment, Other		<input type="checkbox"/> Rule 1176 (09/13/96) <input type="checkbox"/> Rule 464 (12/07/90)	<input type="checkbox"/> Rule 1176(h) N/A	<input type="checkbox"/> Rule 1176(f) & (g)

**KEY**  
**ABBREVIATIONS:**

Reg. = AQMD Regulation  
Rule = AQMD Rule

App. = Appendix  
AQMD TM = AQMD Test Method

CFR = Code of Federal Regulations  
CCR = California Code of Regulations

**AQMD Form 500-C1**

Rev. 1  
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Complete this section only if there is a specific requirement (i.e., rule reference, test method, or MRR requirement) that is:

Complete this section only if there is a specific requirement (i.e., rule reference, test method, or MRR requirement) that is:

1. Listed for a specific type of equipment or process in Section II of this form & **DOES NOT** pertain to a specific device at your facility\*; OR,
2. Is **NOT** Listed for a specific type of equipment or process in Section II of this form but it **IS** applicable to a specific device at your facility.

**NOTES:**

1. For any specific requirement, test method, or MRR requirement that is identified as “Remove,” attach additional sheets to explain the reasons why the specific requirement does not pertain to the device listed.
2. All boxes that are checked in Section II and any additional requirements identified in this section as “Add” will be used to determine the facility’s compliance status. This information will be used to verify the certification statements made on Form 500-A2.
3. Do not use this section to identify equipment that is exempt from specific rule requirements. Your equipment is automatically considered to be in compliance with the rule that specifically exempts the equipment from those requirements.
4. Listing any requirement that does not apply to a specific piece of equipment in this section will not provide the facility with a permit shield unless one is specifically requested by completing Form 500-D and approved by the AQMD.

\* If this section is completed as part of the initial Title V application & there is no device number assigned, refer to the existing permit or application number in this column.

[illegible]



Check off each SIP-Approved Rule as it applies to the facility. Use the blanks at the end of this form to fill-in new items.

SIP-Approved Rule	Adoption/ Amendment Date	Check (✓) if Applies	SIP-Approved Rule	Adoption/ Amendment Date	Check (✓) if Applies
109	03/06/92	<input type="checkbox"/>	1151	06/13/97	<input type="checkbox"/>
218	08/07/81	<input type="checkbox"/>	1158	12/02/83	<input type="checkbox"/>
401	03/02/84	<input checked="" type="checkbox"/>	1168	02/13/98	<input type="checkbox"/>
444	10/02/81	<input type="checkbox"/>	1171	06/13/97	<input type="checkbox"/>
461	09/08/95	<input type="checkbox"/>	1176	05/13/94	<input type="checkbox"/>
466.1	05/02/80	<input type="checkbox"/>			<input type="checkbox"/>
469	05/07/76	<input type="checkbox"/>			<input type="checkbox"/>
475	10/08/76	<input type="checkbox"/>			<input type="checkbox"/>
1102	12/07/90	<input type="checkbox"/>			<input type="checkbox"/>
1102.1	12/07/90	<input type="checkbox"/>			<input type="checkbox"/>
1104	03/01/91	<input type="checkbox"/>			<input type="checkbox"/>
1130	03/08/96	<input type="checkbox"/>			<input type="checkbox"/>
1134	12/07/95	<input type="checkbox"/>			<input type="checkbox"/>
1140	02/01/80	<input type="checkbox"/>			<input type="checkbox"/>
1146	05/13/94	<input type="checkbox"/>			<input type="checkbox"/>
1150.1	04/05/85	<input type="checkbox"/>			<input type="checkbox"/>
1150.2	10/18/95	<input type="checkbox"/>			<input type="checkbox"/>

### Section V – AQMD Rules That Are Not SIP-Approved

Check off each AQMD Rule as it applies to the facility. Use the blanks at the end of this form to fill-in new items.

Non SIP-Approved Rule	Adoption/ Amendment Date	Check (✓) if Applies	Non SIP-Approved Rule	Adoption/ Amendment Date	Check (✓) if Applies
53 Los Angeles Co.	N/A	<input checked="" type="checkbox"/>	1403	04/08/94	<input type="checkbox"/>
53 Orange Co.	N/A	<input type="checkbox"/>	1404	04/06/90	<input type="checkbox"/>
53 Riverside Co.	N/A	<input type="checkbox"/>	1405	01/04/91	<input type="checkbox"/>
53 San Bernardino Co.	N/A	<input type="checkbox"/>	1406	07/08/94	<input type="checkbox"/>
53A San Bernardino Co.	N/A	<input type="checkbox"/>	1407	07/08/94	<input type="checkbox"/>
218.1	05/14/99	<input type="checkbox"/>	1411	03/01/91	<input type="checkbox"/>
402	05/07/76	<input checked="" type="checkbox"/>	1414	05/03/91	<input type="checkbox"/>
429	12/21/90	<input type="checkbox"/>	1415	10/14/94	<input type="checkbox"/>
441	05/07/76	<input type="checkbox"/>	1418	09/10/99	<input type="checkbox"/>
443.1	12/05/86	<input type="checkbox"/>	1420	09/11/92	<input type="checkbox"/>
473	05/07/76	<input type="checkbox"/>	1469	10/08/98	<input type="checkbox"/>
1109	08/05/88	<input type="checkbox"/>	1605	10/11/96	<input type="checkbox"/>
1110.1	10/04/85	<input type="checkbox"/>	1610	02/12/99	<input type="checkbox"/>
1110.2	11/14/97	<input type="checkbox"/>	1612	07/10/98	<input type="checkbox"/>
1116.1	10/20/78	<input type="checkbox"/>	1613	11/14/97	<input type="checkbox"/>
1118	02/14/98	<input type="checkbox"/>	1620	07/10/98	<input type="checkbox"/>
1138	11/14/97	<input type="checkbox"/>	1623	05/10/96	<input type="checkbox"/>
1146.2	01/09/98	<input type="checkbox"/>	2202	10/09/98	<input type="checkbox"/>
1150	10/15/82	<input type="checkbox"/>	2501	05/09/97	<input type="checkbox"/>
1163	06/07/85	<input type="checkbox"/>	2506	12/10/99	<input type="checkbox"/>
1170	05/06/88	<input type="checkbox"/>			<input type="checkbox"/>
1189	01/21/00	<input type="checkbox"/>			<input type="checkbox"/>
1191	06/16/00	<input type="checkbox"/>			<input type="checkbox"/>
1192	06/16/00	<input type="checkbox"/>			<input type="checkbox"/>
1193	06/16/00	<input type="checkbox"/>			<input type="checkbox"/>
1401	03/17/00	<input type="checkbox"/>			<input type="checkbox"/>
1402	03/17/00	<input type="checkbox"/>			<input type="checkbox"/>



Attention: **Cindy Poire**

Date: 6/25/01

Company:

Number of Pages: 3

Fax Number: 18059640259

Voice Number:

From: **Bruce E. Blowey**

Company: Magnolia Power Project

Fax Number: 661-252-5109

Voice Number: 661-252-6908

Subject: Magnolia Power Project

**Comments:**

All,

This is a re-attempt to fax this to you earlier today. My system was acting up. I hope the problem is solved. The following is an attachment to the SCAQMD letter of 6-15-01.

Bruce



## Knut Beruldsen

---

**From:** Tom Chico  
**Sent:** Wednesday, June 13, 2001 3:45 PM  
**To:** Knut Beruldsen  
**Subject:** FW: Ventura County AB 2688 Combustion Emission Factors

COMBEM2001.pdf

Knut, here's what I've got regarding combustion emission factors for toxics. I don't believe I or I have seen anything on this Burbank power project. We usually determine if the air quality impact analysis is complete.

Tom Chico

-----Original Message-----

**From:** Terri Thomas [mailto:terri@vcapcd.org]  
**Sent:** Thursday, May 17, 2001 3:54 PM  
**To:** Sonia Villalobos; bigos.ken; khuss; rwales; bbateman; slutz; lgrewal; greatbasin; bobr; mcaqmd; wolbach; DCRAFT; director; rbroadwi; jcollins; mmarty@oehha.ca.gov; ncuqmd; nsaqmd; nso; jdeguzman; kkelley; tweeksha; rick.mcvaigh; seyed.sadredin; leland.villaivazo; troemer\_apcd; gaffneyr; schiebag; lbowen1; ychao; tchico; djones; emuehlbacher; mnazemi; jwhynot; tehapcd; tuolapcd; Tony Andreoni; Raymond Asregadoo; Ronald Hand; Greg Harris; Michele Houghton; Jim Behrmann; Lisa Jennings; Michelle Komlenic; Janette Brooks; Anna Komorniczak; Cindy Castronovo; George Lew; Carol McLaughlin; Renaldo Crooks; Kirk Oliver; Dan Donohoue; Winston Potts; Victor Douglas; Andrew Ranzieri; Kirk Rosenkranz; Alex Santos; Beth Schwehr; Anthony Servin; Linda Smith; csuer@arb.ca.gov; Mark Watkins; Mark Williams; jaguilla; aqmd; Barbara Fry; kcapcd; asalmon; alee; rcoad; Dale Shimp; rboyd@arb.ca.gov; Andrew Chew; Peggy Taricco; Jose Gomez; Christopher Gallenstein; Rodney Hill; airpollution; Richard Bode; phensleigh  
**Subject:** Ventura County AB 2588 Combustion Emission Factors

I know that some of you use the Ventura County factors. If so, there is now an updated version, which is attached. The big change is that the natural gas engine and turbine factors have been withdrawn, and we are recommending that AP-42 be used. There are a few other relatively minor changes. The impact of some of the new factors could be significant. Note the increase in formaldehyde from turbines.



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**  
**Best Available Control Technology (BACT) Guidelines for Non-Major Polluting Facilities\***

10-20-2000 Rev. 0

Equipment or Process: Gas Turbine

Subcategory/ Rating/Size	Criteria Pollutants					Inorganic
	VOC	NO <sub>x</sub>	SO <sub>x</sub>	CO	PM <sub>10</sub>	
Natural Gas Fired, < 3 MWe		9 ppmvd @ 15% O <sub>2</sub> (10-20-2000)		10 ppmvd @ 15% O <sub>2</sub> (10-20-2000)		9 ppmvd ammonia @ 15% O <sub>2</sub> (10-20-2000)
Natural Gas Fired, ≥ 3 MWe and < 50 MWe		2.5 ppmvd @ 15% O <sub>2</sub> x efficiency (%) 34% (6-12-98)		10 ppmvd @ 15% O <sub>2</sub> (6-12-98)		5.0 ppmvd ammonia @ 15% O <sub>2</sub> (10-20-2000)
Natural Gas Fired, ≥ 50 MWe	2.0 ppmvd (as methane) @ 15% O <sub>2</sub> , 1-hour avg. OR 0.0027 lbs/MMBtu (higher heating value) (10-20-2000)	2.5 ppmvd @ 15% O <sub>2</sub> , 1-hour rolling avg. OR 2.0 ppmvd @ 15 %O <sub>2</sub> , 3-hour rolling avg. x efficiency (%) (10-20-2000)		6.0 ppmvd @ 15% O <sub>2</sub> , 3-hour rolling avg. (10-20-2000)		5.0 ppmvd ammonia @ 15% O <sub>2</sub> (10-20-2000)
Emergency		See Clean Fuels Policy in Part C of the BACT Guidelines (10-20-2000)	See Clean Fuels Policy in Part C of the BACT Guidelines (10-20-2000)		See Clean Fuels Policy in Part C of the BACT Guidelines (10-20-2000)	
Landfill or Digester Gas Fired		25 ppmv, dry, corrected to 15 %O <sub>2</sub> (1990)	Compliance with Rule 431.1 (10-20-2000)	130 ppmv, dry, corrected to 15 %O <sub>2</sub> (10-20-2000)	Fuel Gas Treatment for Particulate Removal (1990)	

\* Means those facilities that are not major polluting facilities as defined by Rule 1302 - Definitions





**Paula Bradshaw**

06/28/01 11:27 AM

To: fgoh@aqmd.gov  
cc: Joan Heredia/SantaBarbara/URSCorp@URSCORP  
Subject: QUERY - Magnolia Project cumulative impacts

Francis, thanks for your phone message today.

Attached is the list of sources that was provided to URS via Keith Golden at the CEC. The list will help URS to carry out a cumulative analysis on sources of air emissions in the area surrounding the Magnolia Power Project.

I have a query on the columns titled 'AV30 NOx, AV30 CO, AV30 PM10, AV30 SOx'

- what does the AV30 mean?
- what are the units of emissions?
- why are the emissions from all sources (except two) zero?

We are concerned that the zeros indicate zero emissions, when in fact we'd expect to see emissions from the respective sources. How was the search queried (eg. 'sources emitting over 10 tonnes per year'?).

Thank you for your help, I'd appreciate your prompt response. Please feel free to call me or email.

Paula Bradshaw  
URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388

----- Forwarded by Paula Bradshaw/SantaBarbara/URSCorp on 06/28/01 11:20 AM -----



cec31.xls



ID	Site Code	Name	Address	City	State	Zip	Appl No	Appl Status	Appl Status Desc	AV20 NG00	AV20 CX	AV20 PM10	AV20 SO2	BCAT	BCAT Description	Insp ID	Insp Name	Insp Photo
2976	78,187,434	FOTO-KEM / FOTO THRONICS	2000 W OLIVE AVE	BURBANK	CA	91505-4582	917059	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	030382 WATE GATE PRINTING W PERCHLOROETHYLENE	IN202	DAHRELL R JOHNSON	9039632220
2976	78,187,434	FOTO-KEM / FOTO THRONICS	2000 W OLIVE AVE	BURBANK	CA	91505-4582	917062	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	030382 WATE GATE PRINTING W PERCHLOROETHYLENE	IN202	DAHRELL R JOHNSON	9039632220
6043	7610	TECHNICOLOR INC	4050 LANKERSHIM BLVD	NORTH HOLLYWOOD	CA	91608	915772	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	030382 WATE GATE PRINTING W PERCHLOROETHYLENE	RT033	RICHARD L THRASH	9039632397
6043	7610	TECHNICOLOR INC	4050 LANKERSHIM BLVD	NORTH HOLLYWOOD	CA	91608	915875	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	030382 WATE GATE PRINTING W PERCHLOROETHYLENE	RT033	RICHARD L THRASH	9039632397
15146	30231	DOROTHY C. THORPE INC	7990 SAN FERNANDO RD	SUN VALLEY	CA	91352-4583	957829	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	020024 UDOEN, COOKING OR CURING	HF02	HIRAM F FONG	9039632718
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916024	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916025	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916026	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916027	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916028	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916029	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916030	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916031	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916032	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916033	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916034	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916035	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916037	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916039	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916040	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916042	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916043	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916044	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916045	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916046	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916047	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916048	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916049	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916050	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916051	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916052	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916053	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916054	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916055	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916056	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916057	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916058	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916059	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916060	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916061	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916062	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916063	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916064	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916065	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916066	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916067	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916068	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916069	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916070	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916071	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916072	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916073	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916074	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916075	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916076	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916077	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916078	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916079	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916080	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916081	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	9039632808
16062	78,007,996	MCAUNIVERSAL CITY STUDIOS	3900 LANKERSHIM BLVD	UNIVERSAL CITY	CA	91608	916082	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	0	043002 C E (-500 HP) EM ELEC GEN DIESEL	RD01	ROY OLIVARES JR	





**Francis Goh**  
<FGoh@aqmd.gov>

06/28/01 05:18 PM

To: "Paula\_Bradshaw@URSCorp.com"  
<Paula\_Bradshaw@URSCorp.com>  
cc: "Kgolden@energy.state.ca.us" <Kgolden@energy.state.ca.us>  
Subject: RE: QUERY - Magnolia Project cumulative impacts

--AV30 stands for 30-day average daily emissions (pounds per day.)  
--applications with status 20 should not be taken to have zero or otherwise listed emissions 'cuz they are under review by the permitting engineer. Only after emissions are validated & action is taken on the application (i.e Permit to Construct granted-status 25) is the emissions info transferred into our main database tables. The only way to get actual emissions data from us for status 20 applications is from our engineer, which is why I included the engineer's contact info so that they could be contacted directly for those applications of interest.

Let me know if you need further clarification.

-----Original Message-----

From: Paula\_Bradshaw@URSCorp.com [[mailto:Paula\\_Bradshaw@URSCorp.com](mailto:Paula_Bradshaw@URSCorp.com)]  
Sent: Thursday, June 28, 2001 11:28 AM  
To: fgoh@aqmd.gov  
Cc: Joan\_Heredia@URSCorp.com  
Subject: QUERY - Magnolia Project cumulative impacts

Francis, thanks for your phone message today.

Attached is the list of sources that was provided to URS via Keith Golden at the CEC. The list will help URS to carry out a cumulative analysis on sources of air emissions in the area surrounding the Magnolia Power Project.

I have a query on the columns titled 'AV30 NOx, AV30 CO, AV30 PM10, AV30 SOx'

- what does the AV30 mean?
- what are the units of emissions?
- why are the emissions from all sources (except two) zero?

We are concerned that the zeros indicate zero emissions, when in fact we'd expect to see emissions from the respective sources. How was the search queried (eg. 'sources emitting over 10 tonnes per year'?).

Thank you for your help, I'd appreciate your prompt response. Please feel free to call me or email.



Paula Bradshaw

URS Corporation

Santa Barbara, CA 93117

Ph 805 964 6010 Cell 805 878 4388

----- Forwarded by Paula Bradshaw/SantaBarbara/URSCorp on 06/28/01 11:20 AM

-----

(See attached file: cec31.xls)





**Paula Bradshaw**

06/29/01 01:20 PM

To: cperri@aqmd.gov, hstoddard@aqmd.gov, jyee@aqmd.gov,  
rolivares@aqmd.gov, scullins@aqmd.gov, fmiller@aqmd.gov,  
tkowalczyk@aqmd.gov, kberuldsen@aqmd.gov  
cc: Kgolden@energy.state.ca.us, Joan  
Heredia/SantaBarbara/URSCorp@URSCORP  
Subject: Cumulative Sources in the Vicinity of Burbank - Magnolia Power Project

Re: Further Information Required on Air Emission Sources surrounding the Magnolia Power Project.

URS is carrying out a Cumulative Air Impact Analysis for the Magnolia Power Project located at 164 W Magnolia Blvd, Burbank, CA. Francis Goh of the IT Dept at the SCAQMD provided us with the attached list of sources within a six mile radius of the Magnolia Power Plant.

The information that we need, from each of the Assigned SCAQMD Engineers (as listed on the attachment) are the quantities of emissions of 30 day average NOx, CO, PM10 and SOx.

Is this information available, given the processing status of the permits? If the information is not available in the public arena, then we will assume that we are not able to include these sources in the cumulative analysis.

Please respond to me via email with any information that you have on source emissions data. Thank you.

Regards,

Paula Bradshaw  
URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388



cec31.xls





**John Yee**  
**<JYee@aqmd.gov>**

06/29/01 02:27 PM

To: John Yee <JYee@aqmd.gov>, "Paula\_Bradshaw@URSCorp.com"  
<Paula\_Bradshaw@URSCorp.com>, Chris Perri <CPerri@aqmd.gov>,  
Hamilton Stoddard <hstoddard@aqmd.gov>, Roy Olivares  
<ROlivares@aqmd.gov>, Sean Cullins <SCullins@aqmd.gov>,  
"fmiller@aqmd.gov" <fmiller@aqmd.gov>, Ted Kowalczyk  
<tkowalczyk@aqmd.gov>, Knut Beruldsen <KBeruldsen@aqmd.gov>  
cc: "Kgolden@energy.state.ca.us" <Kgolden@energy.state.ca.us>,  
"Joan\_Heredia@URSCorp.com" <Joan\_Heredia@URSCorp.com>  
Subject: RE: Cumulative Sources in the Vicinity of Burbank - Magnolia Power  
Project

oops, my mistake for not looking at the entire spreadsheet. please disregard my previous e-mail. When I opened the sheet, it was pointing only to the last 4 columns.

-----Original Message-----

From: John Yee

Sent: Friday, June 29, 2001 2:25 PM

To: 'Paula\_Bradshaw@URSCorp.com'; Chris Perri; Hamilton Stoddard; John Yee; Roy Olivares; Sean Cullins; fmiller@aqmd.gov; Ted Kowalczyk; Knut Beruldsen

Cc: Kgolden@energy.state.ca.us; Joan\_Heredia@URSCorp.com

Subject: RE: Cumulative Sources in the Vicinity of Burbank - Magnolia Power Project

Paula, this list appears to be incomplete. Although it tell us who the engineer is and the type of equipment, it does not tell us which company is operating the equipment. Do you have another spreadsheet which has a reference to the company and application no.?

-----Original Message-----

From: Paula\_Bradshaw@URSCorp.com [[mailto:Paula\\_Bradshaw@URSCorp.com](mailto:Paula_Bradshaw@URSCorp.com)]

Sent: Friday, June 29, 2001 1:21 PM

To: cperri@aqmd.gov; hstoddard@aqmd.gov; jyee@aqmd.gov;  
rolivares@aqmd.gov; scullins@aqmd.gov; fmiller@aqmd.gov;  
tkowalczyk@aqmd.gov; kberuldsen@aqmd.gov

Cc: Kgolden@energy.state.ca.us; Joan\_Heredia@URSCorp.com

Subject: Cumulative Sources in the Vicinity of Burbank - Magnolia Power Project

Re: Further Information Required on Air Emission Sources surrounding the Magnolia Power Project.

URS is carrying out a Cumulative Air Impact Analysis for the Magnolia Power Project located at 164 W Magnolia Blvd, Burbank, CA. Francis Goh of the IT Dept at the SCAQMD provided us with the attached list of sources within a six-mile-radius of the Magnolia Power Plant.



The information that we need, from each of the Assigned SCAQMD Engineers (as listed on the attachment) are the quantities of emissions of 30 day average NOx, CO, PM10 and SOx.

Is this information available, given the processing status of the permits?  
If the information is not available in the public arena, then we will assume that we are not able to include these sources in the cumulative analysis.

Please respond to me via email with any information that you have on source emissions data. Thank you.

Regards,


Paula Bradshaw  
URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388

(See attached file: cec31.xls)



**Joan Heredia**

07/03/01 05:59 PM

To: jyee@aqmd.gov, kgolden@energy.state.ca.us  
cc: BruceEB@aol.com, Douglas  
Hahn/SantaBarbara/URSCorp@URSCORP, Paula  
Bradshaw/SantaBarbara/URSCorp@URSCorp, cperri@aqmd.gov,  
fmiller@aqmd.gov, hstoddard@aqmd.gov, kberuldsen@aqmd.gov,  
rolivares@aqmd.gov, scullins@aqmd.gov, tkowalczyk@aqmd.gov  
Subject: RE: Cumulative Sources in the Vicinity of Burbank - Magnolia Powe r  
Project 

John,

Apologize if I am being a pest, but I really need to resolve the sources that should be included in the cumulative analysis for the Magnolia CEC AFC. Please let me know if I can expect an update from the SCAQMD on emissions that should be assumed for those sources that have zero emissions in the attached table. I will also need exhaust parameters (stack ht, temp, velocity, stack diameter). I would appreciate SCAQMD input by 7/6, so I can start the modeling.

Thanks,

Joan



cec31.xls

Joan Heredia

**Joan Heredia**

07/02/01 10:23 AM

To: John Yee  
cc: Douglas Hahn/SantaBarbara/URSCorp@URSCORP,  
BruceEB@aol.com  
Subject: RE: Cumulative Sources in the Vicinity of Burbank - Magnolia Powe r  
Project

John,

I understand from your e-mail that you looked at the data further and where able to view the company name. Any update on this information or suggestions on how to proceed?


Joan

----- Forwarded by Joan Heredia/SantaBarbara/URSCorp on 07/02/01 10:19 AM -----



**Paula Bradshaw**

06/29/01 02:26 PM

To: John Yee <JYee@aqmd.gov>  
cc: Chris Perri <CPerri@aqmd.gov>, fmiller@aqmd.gov, Hamilton Stoddard  
<hstoddard@aqmd.gov>, Joan\_Heredia@URSCorp.com, John Yee  
<JYee@aqmd.gov>, Knut Beruldsen <KBeruldsen@aqmd.gov>,  
Kgolden@energy.state.ca.us, Roy Olivares <ROlivares@aqmd.gov>,  
Sean Cullins <SCullins@aqmd.gov>, Ted Kowalczyk  
<tkowalczyk@aqmd.gov>  
Subject: RE: Cumulative Sources in the Vicinity of Burbank - Magnolia Powe r  
Project 

John, this is all we have - the only identification of the company is the name of the company. any ideas?



Paula Bradshaw  
URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388  
John Yee <JYee@aqmd.gov>



**John Yee**  
<JYee@aqmd.gov>

06/29/01 02:25 PM

To: "Paula\_Bradshaw@URSCorp.com"  
<Paula\_Bradshaw@URSCorp.com>, Chris Perri <CPerri@aqmd.gov>,  
Hamilton Stoddard <hstoddard@aqmd.gov>, John Yee  
<JYee@aqmd.gov>, Roy Olivares <ROlivares@aqmd.gov>, Sean  
Cullins <SCullins@aqmd.gov>, fmiller@aqmd.gov, Ted Kowalczyk  
<tkowalczyk@aqmd.gov>, Knut Beruldsen <KBeruldsen@aqmd.gov>  
cc: Kgolden@energy.state.ca.us, Joan\_Heredia@URSCorp.com  
Subject: RE: Cumulative Sources in the Vicinity of Burbank - Magnolia Power  
Project

Paula, this list appears to be incomplete. Although it tell us who the engineer is and the type of equipment, it does not tell us which company is operating the equipment. Do you have another spreadsheet which has a reference to the company and application no.?

-----Original Message-----

From: Paula\_Bradshaw@URSCorp.com [[mailto:Paula\\_Bradshaw@URSCorp.com](mailto:Paula_Bradshaw@URSCorp.com)]  
Sent: Friday, June 29, 2001 1:21 PM  
To: cperri@aqmd.gov; hstoddard@aqmd.gov; jyee@aqmd.gov;  
rolivares@aqmd.gov; scullins@aqmd.gov; fmiller@aqmd.gov;  
tkowalczyk@aqmd.gov; kberuldsen@aqmd.gov  
Cc: Kgolden@energy.state.ca.us; Joan\_Heredia@URSCorp.com  
Subject: Cumulative Sources in the Vicinity of Burbank - Magnolia Power  
Project

Re: Further Information Required on Air Emission Sources surrounding the  
Magnolia Power Project.

URS is carrying out a Cumulative Air Impact Analysis for the Magnolia Power  
Project located at 164 W Magnolia Blvd, Burbank, CA. Francis Goh of the IT  
Dept at the SCAQMD provided us with the attached list of sources within a  
six mile radius of the Magnolia Power Plant.

The information that we need, from each of the Assigned SCAQMD Engineers  
(as listed on the attachment) are the quantities of emissions of 30 day  
average NOx, CO, PM10 and SOx.



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Please respond to me via email with any information that you have on source emissions data. Thank you.

Regards,

Paula Bradshaw  
URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388

(See attached file: cec31.xls)



Joan Heredia

07/11/01 03:29 PM

To: Perry Fontana/SantaBarbara/URSCorp@URSCORP, Douglas  
Hahn/SantaBarbara/URSCorp@URSCORP, Paula  
Bradshaw/SantaBarbara/URSCorp@URSCorp

cc:

Subject: PERMIT TO CONSTRUCT

More sources for Burbank cumulative

----- Forwarded by Joan Heredia/SantaBarbara/URSCorp on 07/11/01 03:08 PM -----



Sean Cullins  
<SCullins@aqmd.gov>

>

07/11/01 01:10 PM

To: "Joan\_Heredia@URSCorp.com" <Joan\_Heredia@URSCorp.com>

cc: John Yee <JYee@aqmd.gov>

Subject: PERMIT TO CONSTRUCT



childrens-emissions.doc

Children's Hospital

Contact Sean Cullins

- Plot plan/UTMs
- confirm units that will be operational  
& emissions data
- query appn. No. 347790



APPLICANT: Children's Hospital of Los Angeles  
4850 Sunset Blvd.  
Los Angeles, CA 90027

ONLY 2 BOILERS  
TO OPERATE AT  
ONE TIME.

Emissions for application nos. 369765, 369766, 369767

These applications are for modifications of the below applications and there will be no change in emissions when the applications are processed.

APPLICATION NO. 347791

BOILER NO. 1, NEBRASKA, MODEL NS-C-48-ECON, WITH A 33,900,000 BTU PER HOUR, WITH A LOW NOX BURNER, COEN, MODEL 750, DELTA NO<sub>x</sub>-20, NATURAL GAS FIRED WITH EXTERNAL FLUE GAS RECIRCULATION, AND AMBER 363 STAND BY FUEL.

APPLICATION NO. 347792

BOILER NO. 2, NEBRASKA, MODEL NS-B-42-ECON, WITH A 24,200,000 BTU PER HOUR, WITH A LOW NOX BURNER, COEN, MODEL 730, DELTA NO<sub>x</sub>-16, NATURAL GAS FIRED WITH EXTERNAL FLUE GAS RECIRCULATION, AND AMBER 363 STAND BY FUEL.

APPLICATION NO. 347794

BOILER NO. 3, NEBRASKA, MODEL NS-B-42-ECON, WITH A 24,200,000 BTU PER HOUR, WITH A LOW NOX BURNER, COEN, MODEL 730, DELTA NO<sub>x</sub>-16, NATURAL GAS FIRED WITH EXTERNAL FLUE GAS RECIRCULATION, AND AMBER 363 STAND BY FUEL.

EMISSIONS

Application No. 347790 ? What is this one?

R1 = R2

will not be  
installed  
(see note  
Dec 2, 1999)

	Hourly lbs/hr	Daily 4lbs/day	30 day av lbs/day	30 day NSR lbs/day	Annual lbs/yr
HC:	0.226	5.42	5.42	5	1980
NO <sub>x</sub> :	0.29	6.89	6.89	7	2515
SO <sub>x</sub> :	0.027	0.64	0.64	1	235
CO:	1.25	29.96	29.96	30	10936
PM:	0.242	5.81	5.81	6	2121
PM10:	0.242	5.81	5.81	6	2121

Application Nos. 347791 and 347792 (Same for each application)



R1 = R2



Summary of Emissions

	Hourly lbs/hr	Daily lbs/day	30 day av lbs/day	30 day NSR lbs/day	Annual lbs/yr
HC:	0.161	3.87	3.87	4	1413
NOx: R2	0.205	4.92	4.92	5	1796
SOx:	0.019	0.46	0.46	0	168
CO:	0.89	21.39	21.39	21	7807
PM:	0.173	4.15	4.15	4	1514
PM10:	0.173	4.15	4.15	4	1514



## **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

### **General Commercial Team**

### **MEMORANDUM**

**DATE:** July 28, 1999  
**TO:** File  
**FROM:** Sean K. Cullins  
**REFERENCE:** Children's Hospital  
Co. Id. 18885

Met with Mr. Tim Shippy, of Peerless Mfg., James Harber of AHM, and Alice Santos regarding Children's hospital applications for three boilers and three SCR systems controlling the boilers and we discussed the following:

- The manufacturers guarantee the boilers will meet 50 ppm for CO at 3% O<sub>2</sub> and 5 ppm for NO<sub>x</sub> at 3% O<sub>2</sub>.  
  
The boilers are watertube type
- They informed us Anhydrous Ammonia will be used, and 450 lbs will be stored at the facility.
- The system is designed to meet 10 ppm for ammonia slip however they could design and guarantee the system will meet 5 ppm for ammonia slip. I informed the applicant the slip ppm requirement may be between 3 - 5 ppm.
- FGR is not used for this system
- A CEM system will be used for NO<sub>x</sub> however it is not known if it will meet the requirement of rule 218.
- The boiler will be rated at 150 psig.
- The boiler will be used for steam, water heating, and sterilization.
- The company may request that all of the boilers can be operated at the same time instead of having one as standby.
- This technology can be used for equipment down to 2,000,000 btu/hr
- They plan on beginning the installation in October 1999.



## SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

### General Commercial Team

### MEMORANDUM

#### TELEPHONE CONVERSATION

**DATE:** August 11, 1999  
**TO:** File  
**FROM:** Sean K. Cullins  
**REFERENCE:** Children's Hospital of Los Angeles  
Co. Id. 18885

Telephone conversation with Mr. Bob Okijima, consultant, and discussed the following.

- \* - He informed me that at any given time only two boilers and will accept a condition limiting the operation at any given time to two of the three boilers.
- He informed me that the boilers will be able to achieve a 5 ppm slip for ammonia and they will store less than 500 lbs of ammonia at the facility therefore a CEQA document will not be required.

August 12, 1999

- Contacted Mr. Okijima and discussed the following. I informed him that there may be a change in the BACT emissions for NOx of 5 ppm back to 20 ppm and asked if he would like to wait until BACT is re-evaluated for the boiler and he said it was okay to continue to process the boilers with a 5 ppm limit.

August 13, 1999

- Contacted Mr. Okijima and discussed the following. Informed him that I will not be working on this application until After a review of boiler BACT on August 25, 1999. I also requested him to submit the equipment description for the SCR system and verified that the boilers permitted with permit nos. D69084 and D69047 will be removed.



## **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

### **General Commercial Team**

### **MEMORANDUM**

#### **TELEPHONE CONVERSATION**

**DATE:** August 12, 1999  
**TO:** File  
**FROM:** Sean K. Cullins  
**REFERENCE:** Children's Hospital of Los Angeles  
Co. Id. 18885

Telephone conversation with Mr. Robert Hollowell and Mr. John Sottile and discussed the following.

- I informed them that there may be a slight chance that the NOx emission requirements may be reviewed and a possibility that they may change on August 25, 1999 and informed them that if they wanted me to I will wait until the review before I processed their applications and they agreed to wait.



## **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

### **General Commercial Team**

### **MEMORANDUM**

#### **TELEPHONE CONVERSATION**

**DATE:** September 14, 1999  
**TO:** File  
**FROM:** Sean K. Cullins  
**REFERENCE:** Children's Hospital

Was contacted by Mr. Bob Okijima and he requested for me to send something in writing requiring a five amonia slip for the boiler.

Mr. Okijima informed me that the boilers are 350 ft. from the nearest Business and 530 ft. from the nearest Residence.



J. L. Hengstler Associates  
13921 E. Artesia Blvd.  
Cerritos, Ca 90703

Dear Bob Okijima:

This is to inform you that our current Best Available Control Technology (BACT) requirement for Boilers using Selective Catalytic Reduction (SCR) to reduce NOx, requires an ammonia slip of 5 ppm or less. If you have any questions you can call me at (909) 396-2655.

Sincerely,

Sean Cullins  
Air Quality Engineer II



# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

## **General Commercial Team**

### **MEMORANDUM**

#### **TELEPHONE CONVERSATION**

**DATE:** October 14, 1999  
**TO:** File  
**FROM:** Sean K. Cullins  
**REFERENCE:** Children's Hospital

Contacted James Harber, of AHM Associates, Inc., consultant and discussed the following.

- I requested that he submit additional information regarding the control system used for the SCR system, and more information regarding the algorithm equation used to determine the amount of ammonia required to meet the 7ppm NO<sub>x</sub> and a 5 ppm ammonia slip.
- I sent him a copy of the BACT boiler guidelines revised October 5, 1999.



# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

## **General Commercial Team**

### **MEMORANDUM**

#### **TELEPHONE CONVERSATION**

**DATE:**

**TO:** File

**FROM:** James Harbour,

**REFERENCE:**

Sean,

Please find responses to your earlier questions;

- 1) The Catalyst is a ceramic base with a homogenous mixture of Titanium Pentoxide, manufactured by Cormetech.
- 2) Honeycomb type.
- 3) Catalyst operating temperature is from the low 400 F range to 700 F.
- 4) The catalyst depth is 48 inches and weighs 2820 pounds.
- 5) There is a thermometer and temperature switch to enable ammonia into the system once the minimum operating temp is obtained.
- 6) Discussed with Alexandria at AQMD .....
- 7) A flow model was not required on this application, as it is very straight forward.
- 8) The CO level of less than 50 ppm will be achieved with the burner, therefore, a CO catalyst is not required.

Thanks very much,

James

cc: Bob Lujan, Bob Okijima



# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

## **General Commercial Team**

### **MEMORANDUM**

#### **TELEPHONE CONVERSATION**

**DATE:** December 3, 1999

**TO:** File

**FROM:** Sean K. Cullins

**REFERENCE:** Children's Hospital

Contacted Bill Okijima and discussed the following.

I told him if he has no questions by the end of the day regarding the sample permits, I will send them out.



# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

## **General Commercial Team**

### **MEMORANDUM**

#### **TELEPHONE CONVERSATION**

**DATE:** December 2, 1999  
**TO:** File  
**FROM:** Sean K. Cullins  
**REFERENCE:** Children's Hospital  
Co. Id. 18885  
A/N 347794

The applicant informed me the boiler in the above application will not be installed and therefore this application should be cancelled and the associated filing fees should be refunded.



# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

## **General Commercial Team**

### **MEMORANDUM**

#### **TELEPHONE CONVERSATION**

**DATE:** December 7, 1999

**TO:** File

**FROM:** Sean K. Cullins

**REFERENCE:** Children's Hospital

Was contacted by John of Children's Hospital and we discussed the following:

He said there were several conditions on the sample permits I sent him that he felt the company could not meet. He said he would send me a letter regarding the conditions.



**From:** Bob Okajima [BOkajima@jlhaengineers.com]  
**Sent:** Tuesday, December 14, 1999 1:33 PM  
**To:** scullins@aqmd.gov  
**Subject:** CHLA - Burner Model No's.  
Sean,

The Coen burner model numbers are as follows:

For Larger Boiler (35,000 pph) : Model 750, Delta NOx-20

For (2) Smaller Boilers (25,000 pph) : Model 730, Delta NOx-16

If you need any additional information, please contact me.

Thank you for your time.

Sincerely,

Bob Okajima, PE  
Project Manager

J.L. Hengstler Associates, Inc.  
Consulting Mechanical Engineers

13921 East Artesia Blvd.  
Cerritos, Ca 90703  
562.483.5333  
562.483.5339 fax  
[www.jlhaengineers.com](http://www.jlhaengineers.com)



# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

## **General Commercial Team**

### **MEMORANDUM**

#### **TELEPHONE CONVERSATION**

**DATE:** January 5, 2000  
**TO:** File  
**FROM:** Sean K. Cullins  
**REFERENCE:** Children's Hospital

Was contacted by John Sottile of Children's hospital and discussed the following. He said they are going to appeal the permits issued for this facility and has filed a petition with the hearing board. I informed him to send me a copy of the petition. He also requested a meeting with me but I informed him I would have to consult our legal department first.



# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

## **General Commercial Team**

### **MEMORANDUM**

#### **TELEPHONE CONVERSATION**

**DATE:** February 22, 2000

**TO:** File

**FROM:** Sean K. Cullins

**REFERENCE:** Children's Hospital

Contacted Bob Hollowell and informed him the a company called R. F. McDonald said they can meet 9 ppm for NOx on his boilers while operating on natural gas, and he said he will contact them.



# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

## **General Commercial Team**

### **MEMORANDUM**

#### **TELEPHONE CONVERSATION**

**DATE:** April 11, 2000

**TO:** File

**FROM:** Sean K. Cullins

**REFERENCE:** Childrens Hospital

Contacted John Scottie and Joeseeph Hower and discussed the following. We discussed the proposed red line sheet submitted to us and I informed of the following summary regarding the sheet. We still require that the Gas consumption or steam rate, ppm for nox, ammonia rate, and temperature be monitored for the system. New applications will be required. I told him that at a maximum 200 hours per each loader can be operated below load. He informed me he could not live with this condition. I informed him I will discuss his comments with my manager.

---

April 12, 2000

Contacted John Scottie and Joeseeph Hower and discussed the following. I requested that he send additional information on why it takes four hours to start up the boiler, and why they need two hundred hours for low load operation.





Paula Bradshaw

07/19/01 12:46 PM

To: jyee@aqmd.gov

cc: Kgolden@energy.state.ca.us, Perry

Fontana/SantaBarbara/URSCorp@URSCORP, Joan

Heredia/SantaBarbara/URSCorp@URSCORP, Vicki

Hoffman/Oakland/URSCorp@URSCORP, Douglas

Hahn/SantaBarbara/URSCorp@URSCORP

Subject: Magnolia Power Project Cumulative Analysis

John,

Re: Information on potential sources for inclusion in the Magnolia Power Project Cumulative Analysis

Thank you for the information provided by Chris Perri and Sean Cullins on the potential sources identified in previous emails between the SCAQMD and URS. I have gone through the remainder of the spreadsheet that the SCAQMD provided and identified the following as potential sources to be included in the Cumulative Analysis for the Magnolia Power Project (they are all located within a six mile radius of the Magnolia Facility). Note that I've listed the SCAQMD Inspector for reference:

1. Facility ID:16862 MCA/Universal Studios - several (around 21-22) ICE Diesel Generators [Roy Olivares]
2. Facility ID: 71691 NBB Associates - Boiler (5-20 MMBtu/h) - [Thai Tran]
3. Facility ID: 89105 Glendale City Public Service Dept Turbines (<=50MW) [Hamilton Stoddard]
4. Facility ID: 94931 Magnolia Tower Co-op Inc - 3 Boilers <2MMBtu/h [Winnie Cho]
5. Facility ID: 126005 Continental Culture Specialists - Boiler <2MMBtu/h [Winnie Cho]

To date, URS has not received any information on the sources at the above facilities (specifically emissions data, emission parameters and UTM coordinates if possible). We would like to get this information by close of business on Tuesday July 24th, in order to carry out and complete the cumulative analysis for the Magnolia Power Project. The cumulative analysis is required to attain data adequacy on the Application for Certification submitted to the CEC.

If we don't hear from the SCAQMD by close of business Tuesday July 24th, we will assume that it will not be possible to include these sources in the cumulative analysis. Please give me a call if you want to discuss this request further.

Thanks and Regards,  
Paula

Paula Bradshaw  
URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388



Joan Heredia

07/23/01 09:04 AM

To: Paula Bradshaw/SantaBarbara/URSCorp@URSCorp, Perry  
Fontana/SantaBarbara/URSCorp@URSCORP  
cc:  
Subject: RE: Cumulative Sources in the Vicinity of Burbank - Magnolia Power Project

FYI

----- Forwarded by Joan Heredia/SantaBarbara/URSCorp on 07/23/01 09:00 AM -----



**Hamilton Stoddard**  
<hstoddard@aqmd.gov>  
v>

07/22/01 10:10 PM

To: "Joan\_Heredia@URSCorp.com" <Joan\_Heredia@URSCorp.com>  
cc: John Yee <JYee@aqmd.gov>  
Subject: RE: Cumulative Sources in the Vicinity of Burbank - Magnolia Power Project

1. A/N 327599 (Experimental Xenon combustion system)- cancelled in 1998, no emissions.
2. A/N 379622 (SCR application)- a control, no emissions
3. A/N 379623 (NH3 tank) - Ammonia tank, no criteria emissions
4. A/N 379621 (Modification to turbine #7)  
30 Day Averages(lb/day): NOx=379, CO=1503, SOx=5, PM10=5  
Stack Height=57ft or 17.37m, Diameter=3.894m(equivalent)  
Exhaust Temperature=900 deg F(755.4 deg K), velocity=8.5995 m/s

-----Original Message-----

From: Joan\_Heredia@URSCorp.com [[mailto:Joan\\_Heredia@URSCorp.com](mailto:Joan_Heredia@URSCorp.com)]

Sent: Wednesday, July 11, 2001 11:02 AM

To: jyee@aqmd.gov

Cc: BruceEB@aol.com; cperri@aqmd.gov; Douglas\_Hahn@URSCorp.com;  
fmiller@aqmd.gov; hstoddard@aqmd.gov; kberuldsen@aqmd.gov;  
kgolden@energy.state.ca.us; Paula\_Bradshaw@URSCorp.com;  
rolivares@aqmd.gov; scullins@aqmd.gov; tkowalczyk@aqmd.gov;  
Perry\_Fontana@urscorp.com

Subject: RE: Cumulative Sources in the Vicinity of Burbank - Magnolia Power Project

John,

Based on your response to my e-mail below I understood that quite a few people were on vacation last week so it was not possible to respond to my request for data. Now that hopefully people are back can you give me an indication when I might receive the data. I would really like it by the end of the week if possible.



Thanks

Joan

Joan Heredia

To: John Yee, kgolden@energy.state.ca.us  
07/03/01 05:59 PM cc: BruceEB@aol.com, Douglas Hahn/SantaBarbara/URSCorp@URSCORP,  
Paula Bradshaw/SantaBarbara/URSCorp@URSCorp, cperri@aqmd.gov,  
fmiller@aqmd.gov, hstoddard@aqmd.gov, kberuldsen@aqmd.gov,  
rolivares@aqmd.gov, scullins@aqmd.gov, tkowalczyk@aqmd.gov  
Subject: RE: Cumulative Sources in the Vicinity of Burbank -  
Magnolia Power Project(Document link: Joan Heredia)

John,

Apologize if I am being a pest, but I really need to resolve the sources that should be included in the cumulative analysis for the Magnolia CEC AFC. Please let me know if I can expect an update from the SCAQMD on emissions that should be assumed for those sources that have zero emissions in the attached table. I will also need exhaust parameters (stack ht, temp, velocity, stack diameter). I would appreciate SCAQMD input by 7/6, so I can start the modeling.

Thanks,

Joan

(See attached file: cec31.xls)

Joan Heredia

To: John Yee  
07/02/01 10:23 AM cc: Douglas Hahn/SantaBarbara/URSCorp@URSCORP, BruceEB@aol.com  
Subject: RE: Cumulative Sources in the Vicinity of Burbank -  
Magnolia Power Project



John,

I understand from your e-mail that you looked at the data further and where able to view the company name. Any update on this information or suggestions on how to proceed?

Joan

----- Forwarded by Joan Heredia/SantaBarbara/URSCorp on 07/02/01 10:19 AM

-----

Paula Bradshaw

To: John Yee <JYee@aqmd.gov>  
06/29/01 02:26 PM cc: Chris Perri <CPerri@aqmd.gov>, fmiller@aqmd.gov, Hamilton Stoddard <hstoddard@aqmd.gov>, Joan\_Heredia@URSCorp.com, John Yee <JYee@aqmd.gov>, Knut Beruldsen <KBeruldsen@aqmd.gov>, Kgolden@energy.state.ca.us, Roy Olivares <ROlivares@aqmd.gov>, Sean Cullins <SCullins@aqmd.gov>, Ted Kowalczyk <tkowalczyk@aqmd.gov>  
Subject: RE: Cumulative Sources in the Vicinity of Burbank - Magnolia Power Project (Document link: Joan Heredia)

John, this is all we have - the only identification of the company is the name of the company. any ideas?

Paula Bradshaw  
URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388

John Yee

<JYee@aqmd.gov> To: "'Paula\_Bradshaw@URSCorp.com'"  
v> <Paula\_Bradshaw@URSCorp.com>, Chris Perri <CPerri@aqmd.gov>, Hamilton Stoddard <hstoddard@aqmd.gov>, John Yee <JYee@aqmd.gov>, Roy Olivares <ROlivares@aqmd.gov>, Sean Cullins <SCullins@aqmd.gov>, fmiller@aqmd.gov, Ted Kowalczyk <tkowalczyk@aqmd.gov>, Knut Beruldsen <KBeruldsen@aqmd.gov>  
06/29/01 02:25 PM cc: Kgolden@energy.state.ca.us, Joan\_Heredia@URSCorp.com  
Subject: RE: Cumulative Sources in the Vicinity of Burbank - Magnolia Power Project



Paula, this list appears to be incomplete. Although it tell us who the engineer is and the type of equipment, it does not tell us which company is operating the equipment. Do you have another spreadsheet which has a reference to the company and application no.?

-----Original Message-----

From: Paula\_Bradshaw@URSCorp.com [mailto:Paula\_Bradshaw@URSCorp.com]

Sent: Friday, June 29, 2001 1:21 PM

To: cperri@aqmd.gov; hstoddard@aqmd.gov; jyee@aqmd.gov;  
rolivares@aqmd.gov; scullins@aqmd.gov; fmiller@aqmd.gov;  
tkowalczyk@aqmd.gov; kberuldsen@aqmd.gov

Cc: Kgolden@energy.state.ca.us; Joan\_Heredia@URSCorp.com

Subject: Cumulative Sources in the Vicinity of Burbank - Magnolia Power Project

Re: Further Information Required on Air Emission Sources surrounding the Magnolia Power Project.

URS is carrying out a Cumulative Air Impact Analysis for the Magnolia Power

Project located at 164 W Magnolia Blvd, Burbank, CA. Francis Goh of the IT

Dept at the SCAQMD provided us with the attached list of sources within a six mile radius of the Magnolia Power Plant.

The information that we need, from each of the Assigned SCAQMD Engineers (as listed on the attachment) are the quantities of emissions of 30 day average NOx, CO, PM10 and SOx.



Is this information available, given the processing status of the permits?  
If the information is not available in the public arena, then we will  
assume that we are not able to include these sources in the cumulative  
analysis.

Please respond to me via email with any information that you have on source  
emissions data. Thank you.

Regards,

Paula Bradshaw  
URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388

(See attached file: cec31.xls)





Paula Bradshaw

07/23/01 04:02 PM

To: cperri@aqmd.gov, jye@aqmd.gov, Kgolden@energy.state.ca.u  
cc: Joan Heredia/SantaBarbara/URSCorp@URSCORP, Perry  
Fontana/SantaBarbara/URSCorp@URSCORP  
Subject: MPP Cumulative Analysis - Info on LADWP Sources

Chris,

Thank you for the information that you provided to Joan Heredia via email on 7/11/01. I am now compiling model input information for the cumulative impact analysis, and have the following questions regarding the combustion sources at the LADWP Plant. Note that we are only interested in sources that have recently been modified or that are proposed to be modified.

We have identified the LADWP Plant as a key source in the cumulative analysis, so we'd really appreciate your help in obtaining this information as soon as possible (we intend to begin modeling this week):

- Please confirm that new/modified sources will be 2 utility boilers, 3 turbines and 1 ICE (presume that the ICE operates only in black start situations for the turbine?)
- Does the ICE operate at the same time as any of the turbines?
- Any more emissions information on the ICE (specifically PM10, SOx, CO emissions)?
- What is the maximum number of equipment that will operate at one time (e.g. 1 boiler, 2 turbines and the ICE)?
- The blank lines (application numbers 374497, 3744989, 374503) - what are these? Are they combustion sources?
- Units of emissions listed on the spreadsheet - we presume these are lb/day on a 30 day average?
- Do any of the units share common stacks or do they each (2 utility boilers, 3 turbines) vent to an individual stack?
- Do you have a plot plan or UTM coordinates for the stacks?

Once you have provided the following information we will draw up a master list of the sources that we propose to include in the cumulative analysis and ask for your confirmation of the accuracy of the information to be used.

Thanks again for your help, I'll be in touch by phone this week.

Paula Bradshaw  
URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388





Paula Bradshaw

07/23/01 04:06 PM

To: scullins@aqmd.gov, jyee@aqmd.gov, Kgolden@energy.state.ca.us  
cc: Joan Heredia/SantaBarbara/URSCorp@URSCORP, Perry  
Fontana/SantaBarbara/URSCorp@URSCORP  
Subject: MPP Cumulative Analysis - Further Info on Children's Hospital Sources

Sean,

**Re: Magnolia Power Project Cumulative Analysis, Identification of Key Sources - Further Information Requested**

Thank you for the information that you provided to Joan Heredia via email on 7/11/01. I am now compiling model input information for the cumulative impact analysis, and have the following questions regarding the combustion sources at the Children's Hospital. Note that we are only interested in sources that have recently been modified or that are proposed to be modified.

We've identified the Children's Hospital as a key source in the cumulative analysis, and would really appreciate your help in obtaining this information as soon as possible, as we will start modeling this week.

How many new or modified units are there at the plant? The information that you provided indicated that there were two modified units (application numbers 347791 and 347792), however emissions data was also provided for application number 347790 – but no information on the source.

For the cumulative analysis modeling, we need to obtain from you:

- Approximate location of the sources – UTM coordinates of the stacks if possible.
- Stack height
- Stack exit velocity
- Stack exit temperature
- Stack diameter
- Does each unit vent to its own stack or are there shared stacks?

Thank you again for your help, I will be in touch by phone this week.

Paula Bradshaw

URS Corporation  
Santa Barbara, CA 93117

Ph 805 964 6010 Cell 805 878 4388





Paula Bradshaw

07/24/01 12:52 PM

To: kberuldsen@aqmd.gov, jyee@aqmd.gov  
cc: Perry Fontana/SantaBarbara/URSCorp@URSCORP, Douglas  
Hahn/SantaBarbara/URSCorp@URSCORP, Joan  
Heredia/SantaBarbara/URSCorp@URSCORP  
Subject: Magnolia Power Project - TV Fee Query

**Re: Magnolia Power Project ATC Application - SCAQMD Request for further information**

Knut and John

Can one of you please clarify the following - for the Magnolia Power Project, the SCAQMD requested that we submit Title V application forms and associated fees.

My question is regarding the accompanying fees - looking through Rule 301, I would assume that Rule 301 (p)(4) applies, which would mean (from my interpretation and correct me if i am wrong) that under Rule 301 (p)(4) the fee basis is covered, and no additional fees are necessary.

Please let me know if Rule 301 (p)(4) applies, or in fact if fees are due pursuant to Rule 301 (p)(3)(A) & (B) for an existing facility.

Thanks in advance  
Paula

URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388





**Knut Beruldsen**  
<[KBeruldsen@aqmd.gov](mailto:KBeruldsen@aqmd.gov)>

07/24/01 04:59 PM

To: "Paula\_Bradshaw@URSCorp.com"  
<[Paula\\_Bradshaw@URSCorp.com](mailto:Paula_Bradshaw@URSCorp.com)>, Knut Beruldsen  
<[KBeruldsen@aqmd.gov](mailto:KBeruldsen@aqmd.gov)>, John Yee <[JYee@aqmd.gov](mailto:JYee@aqmd.gov)>  
cc: [Perry\\_Fontana@URSCorp.com](mailto:Perry_Fontana@URSCorp.com), [Douglas\\_Hahn@URSCorp.com](mailto:Douglas_Hahn@URSCorp.com),  
[Joan\\_Heredia@URSCorp.com](mailto:Joan_Heredia@URSCorp.com)  
Subject: RE: Magnolia Power Project - TV Fee Query

Paula,

The permit processing fee for the initial Title V permit application is \$874.15 based on =< 20 devices at the proposed facility. If you have any questions regarding this e-mail, please call me at (909) 396-3136.

Regards, Knut Beruldsen

-----Original Message-----

From: [Paula\\_Bradshaw@URSCorp.com](mailto:Paula_Bradshaw@URSCorp.com) [[mailto:Paula\\_Bradshaw@URSCorp.com](mailto:Paula_Bradshaw@URSCorp.com)]  
Sent: Tuesday, July 24, 2001 12:53 PM  
To: [kberuldsen@aqmd.gov](mailto:kberuldsen@aqmd.gov); [jyee@aqmd.gov](mailto:jyee@aqmd.gov)  
Cc: [Perry\\_Fontana@urscorp.com](mailto:Perry_Fontana@urscorp.com); [Douglas\\_Hahn@URSCorp.com](mailto:Douglas_Hahn@URSCorp.com);  
[Joan\\_Heredia@URSCorp.com](mailto:Joan_Heredia@URSCorp.com)  
Subject: Magnolia Power Project - TV Fee Query

Re: Magnolia Power Project ATC Application - SCAQMD Request for further information

Knut and John

Can one of you please clarify the following - for the Magnolia Power Project, the SCAQMD requested that we submit Title V application forms and associated fees.

My question is regarding the accompanying fees - looking through Rule 301, I would assume that Rule 301 (p)(4) applies, which would mean (from my interpretation and correct me if i am wrong) that under Rule 301 (p)(4) the fee basis is covered, and no additional fees are necessary.

Please let me know if Rule 301 (p)(4) applies, or in fact if fees are due pursuant to Rule 301 (p)(3)(A) & (B) for an existing facility.

Thanks in advance  
Paula

URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388



**Section I - Facility Information**

1. Facility Name:	<u>MAGNOLIA POWER PROJECT</u>		Facility ID (6-Digit):	
2. Legal Owner (if different from Facility Name):	<u>SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY</u>			
3. Standard Industrial Classification (4-digit SIC) Codes (List all applicable):	a) _____	b) _____	c) _____	
4. Facility Address (Street Designation Only):	<u>164 W Magnolia Blvd</u>			
City	<u>Burbank</u>	CA	Zip Code	<u>91503</u>
5. Mailing Address, if different from Item 4 (Street/ P.O. Box Designation):	<u>225 S. Lake Ave., Suite 1410</u>			
City	<u>Pasadena</u>	State	<u>CA</u>	Zip Code <u>91101</u>
6. Facility Contact Person:	<u>Bruce Blowey</u>	Phone:	<u>661 252 - 6908</u>	
Title:	<u>Licensing Manager</u>	Fax:	<u>661 252-5109</u>	

**Section II - Small Business Questionnaire**

1. To better serve small businesses with their special Title V needs, check the appropriate box that best describes your facility:
- a. ☐ 10 employees or less and gross facility annual income less than \$500,000.
- b. ☐ 100 employees or less and gross facility annual income less than \$2,000,000.
- c. ☐ 100 employees or less and gross facility annual income less than \$5,000,000.
- d. ☒ 100 employees or greater.

**Section III - Certification Statement**

1. I certify that I am the responsible official for this facility as defined in AQMD Regulation XXX. I also certify under penalty of law that I personally examined, and am familiar with, the statements and information submitted in this document and all of its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statement and information, including the possibility of fine or imprisonment. Check the appropriate box:
- a. ☒ I hereby certify that I am a Title V facility based on the applicability criteria listed in Rule 3001.
- b. ☐ I hereby request to be excluded from the Title V program for reasons provided in Section IV or Section V of this document. I understand that filing this request does not relieve me of my obligation to prepare and submit an application for a Title V permit unless I am otherwise notified in writing that my exclusion has been approved by AQMD.

Signature of Responsible Official

Date

Bill Carnahan

(626) 793 - 9364

Type or Print Name of Responsible Official

Phone

Vice President

(626) 793-9461

Title of Responsible Official

Fax

225 S Lake Ave, Suite 1410

Pasadena

CA

91101

Address of Responsible Official

City

State

Zip Code

Please return this questionnaire to:


South Coast Air Quality Management District  
 Attn: RECLAIM & Title V Administration Team  
 21865 E. Copley Drive  
 P.O. Box 4830  
 Diamond Bar, CA 91765-0830





**Paula Bradshaw**

09/06/01 01:40 PM

To: Knut Beruldsen <KBeruldsen@aqmd.gov>  
cc: perry\_fontana@urscorp.com, joan\_heredia@urscorp.com,  
JYee@aqmd.gov  
Subject: Re: Magnolia Power Project 

Knut,

The modeling analyses for the MPP were based on 41 and 95F, as these conditions showed the worst case impacts. Therefore your analyses should be based on these conditions. I will FedEx you a copy of the air quality and health risk assessment modeling files, as well as a copy of Appendix H to the AFC, that will give more details and some performance data.

The MPP will utilize duct burning for power augmentation, not steam injection.

Paula Bradshaw  
URS Corporation  
Santa Barbara, CA 93117  
Ph 805 964 6010 Cell 805 878 4388  
Knut Beruldsen <KBeruldsen@aqmd.gov>



**Knut Beruldsen**  
<KBeruldsen@aqmd.gov>  
gov>

08/31/01 09:32 AM

To: "Joan Heredia (E-mail)" <joan\_heredia@urscorp.com>, "Paula C. Bradshaw (E-mail)" <paula\_bradshaw@urscorp.com>  
cc: John Yee <JYee@aqmd.gov>  
Subject: Magnolia Power Project

Joan and Paula,

Will the GE turbine utilize steam injection for power augmentation? If so, provide details. Also, in your letter dated 8/3/01 you provided exhaust and emissions data for the turbine at 22 and 113 degrees F. It appears the modeling analyses are based on 41 and 95 degrees F. Do you have performance data for the turbine at those temperatures? I will most likely base the emissions calculations on 41 and 95 degrees F. Please let me know.

Regards, Knut Beruldsen



September 10, 2001

Ms. Pang Mueller  
Senior Manager  
South Coast Air Quality Management District  
21865 East Copley Drive  
Diamond Bar, CA 91765-4182

**Re: Permit Applications for the Magnolia Power Project to be located at 164 W. Magnolia Blvd., Burbank, CA (Facility ID 128243)**

Dear Ms. Mueller:

In response to your letter addressed to Mr. Bill Carnahan dated August 29, 2001 regarding the applications for the above referenced project, we are submitting additional information. This information includes the equipment manufacturer, equipment specifications, and emission control guarantees. A summary of requested information is provided below.

Application Number	Equipment Description	Information Submitted
386306	Air Pollution Control System	<ol style="list-style-type: none"><li>1. Continuous Emissions Monitoring Technical Specification</li><li>2. SCR System Technical Specification</li><li>3. Catalyst for SCR Technical Specifications</li><li>4. Ammonia System Technical Specifications</li><li>5. Oxidation Catalyst System Technical Specifications</li></ol>
28607	Ammonia Storage Tank	Shop Fabricated Tanks Technical Specifications
38608	Auxiliary Boiler	<ol style="list-style-type: none"><li>1. Auxiliary Boiler Technical Specifications</li><li>2. Universal Boiler Works, Inc. Sample Technical Specifications</li></ol>



Ms. Pang Mueller  
South Coast Air Quality Management District  
September 10, 2001  
Page 2 of 2

In addition, Black and Veatch have provided additional information for each of the three permits in written form specific to the August 29, 2001 letter. Should you have any questions or comments regarding this information please do not hesitate to contact Ms. Joan Heredia at 805-964-6010.

Sincerely,

**URS Corporation**

Douglas Hahn  
Project Manager

c: James Reede, CEC (w/ enclosures)  
Joan Heredia, URS Corporation  
Bruce Blowey  
Bill Carnahan  
Cindy Poiré





**Paula Bradshaw**

09/28/01 03:28 PM

To: kberuldsen@aqmd.gov

cc:

Subject: MPP copies

Knut,

I put the five copies of Magnolia Power Project ATC, Appendices and CDs in a FedEx package to you today, you should receive them by Tuesday. Note that a copy of these were sent to Keith Golden (CEC) and Mike McCorison (USFS) in April this year.

Paula Bradshaw

URS Corporation

Santa Barbara, CA 93117

Ph 805 964 6010 Cell 805 878 4388





**Knut Beruldsen**  
<KBeruldsen@aqmd.gov>

10/05/01 09:26 AM

To: "Joan Heredia (E-mail)" <joan\_heredia@urscorp.com>, "Paula C. Bradshaw (E-mail)" <paula\_bradshaw@urscorp.com>  
cc: John Yee <JYee@aqmd.gov>, "James Reede (E-mail)" <jreede@energy.state.ca.us>  
Subject: Magnolia Power Project - Modeling Inputs

Joan and Paula,

Please provide the information requested in the attached document. Also, I would like the heat inputs and emission factors corresponding to the seven case numbers included in page H-160 of Appendix H. I need this information in order to check the hourly emission rates. Please provide the requested information by October 26, 2001.

Thanks, Knut Beruldsen (909.396.3136)

<<Modeling Info Request.doc>>



Modeling Info Request.doc





**Knut Beruldsen**  
**<KBeruldsen@aqmd.gov>**

10/19/01 05:24 PM

To: "Joan Heredia (E-mail)" <joan\_heredia@urscorp.com>, "Paula C. Bradshaw (E-mail)" <paula\_bradshaw@urscorp.com>  
cc:  
Subject: Magnolia Power Project - Distances to Federal Class I Areas

Joan and Paula,

Could you please provide me with the distances from the project site to the following Class I areas (closest boundary): Aqua Tibia, Cucamonga, Joshua Tree, San Gabriel, San Gorgonio, and San Jacinto. If the distance is greater than 100 km, just say > 100 km. Call me if you have any questions regarding this email.

Thanks, Knut Beruldsen



**Joan Heredia**

10/22/01 09:58 AM

To: kberuldsen@aqmd.gov  
cc:  
Subject: Re: Magnolia Power Project - Distances to Federal Class I Areas

Knut,

In response to your inquiry. Let me know if you need anything else. We are also working on your request on for the modeling information table

Take care,


Joan

----- Forwarded by Joan Heredia/SantaBarbara/URSCorp on 10/22/01 09:55 AM -----



**Vicki Hoffman**

10/22/01 09:05 AM

To: Joan Heredia/SantaBarbara/URSCorp@URSCORP  
cc: Lisa Killion/SantaBarbara/URSCorp@URSCORP, Paula  
Bradshaw/SantaBarbara/URSCorp@URSCORP  
Subject: Re: Magnolia Power Project - Distances to Federal Class I Areas 

It's in the AFC (page 5.2-69, first paragraph of the "Impacts to Class I Areas")

San Gabriel >> 29 kilometers

Cugamonga >> 59 kilometers

Class I areas beyond 100 kilometers include: Aqua Tibia, Joshua Tree, San Gorgonio, and San Jacinto  
Joan Heredia

**Joan Heredia**

10/21/01 10:46 AM

To: Vicki Hoffman/Oakland/URSCorp@URSCORP  
cc: Paula Bradshaw/SantaBarbara/URSCorp@URSCORP, Lisa  
Killion/SantaBarbara/URSCorp@URSCORP  
Subject: Magnolia Power Project - Distances to Federal Class I Areas

Vicki,

I am almost positive this should be in the AFC. Can you check or I can have Lisa follow-up.

Thaks

Joan

----- Forwarded by Joan Heredia/SantaBarbara/URSCorp on 10/21/01 10:45 AM -----



**Knut Beruldsen**  
<KBeruldsen@aqmd.  
gov>

10/19/01 05:24 PM

To: "Joan Heredia (E-mail)" <joan\_heredia@urscorp.com>, "Paula C.  
Bradshaw (E-mail)" <paula\_bradshaw@urscorp.com>  
cc:  
Subject: Magnolia Power Project - Distances to Federal Class I Areas

Joan and Paula,

Could you please provide me with the distances from the project site to the following Class I areas (closest boundary): Aqua Tibia, Cucamonga, Joshua Tree, San Gabriel, San Gorgonio, and San Jacinto. If the distance is greater than 100 km, just say > 100 km. Call me if you have any questions regarding this email.

Thanks, Knut Beruldsen



Joan Heredia

10/26/01 06:50 PM

To: kberuldsen@aqmd.gov

CC:  
Subject: Knut table 2nd try

----- Forwarded by Joan Heredia/SantaBarbara/URSCorp on 10/26/01 06:49 PM -----



**System Administrator**  
<postmaster@aqmd.gov>  
ov>

10/26/01 06:15 PM

To: Joan\_Heredia@URSCorp.com

cc:  
Subject: Undeliverable: Knut table

Your message

To: kberuldsen@aqmd.gov  
Cc: Vicki\_Hoffman@urscorp.com; Gordon\_L\_Tucker@URSCorp.com  
Subject: Knut table  
Sent: Fri, 26 Oct 2001 18:12:38 -0700

did not reach the following recipient(s):

kberuldsen@aqmd.gov on Fri, 26 Oct 2001 18:15:08 -0700

The recipient name is not recognized

The MTS-ID of the original message is: c=us;a= ;p=south coast air  
;l=POSTOFFICE01102701154Z93XDN8

MSEXCH:IMS:South Coast Air Quality Management District:AQMD:POSTOFFICE 0  
(000C05A6) Unknown Recipient

----- Message from on -----

Knut,

Attached table on the day (and not a moment earlier I must admit) I said I would have it for you.

Please note I will be on vacation next week - in my absence Vicki Hoffman can answer questions on Burbank. Her number 510-874-1714

If you have AES questions please contact Gordon Tucker at 805-964-6010

Joan

----- Forwarded by Joan Heredia/SantaBarbara/URSCorp on 10/26/01 05:23 PM -----

Vicki Hoffman

Heredia/SantaBarbara/URSCorp@URSCORP  
10/26/01  
01:49 PM

To: Joan

cc:

Subject: Knut table



(See attached file: Modeling Info Request-vjh.doc)



Modeling Info Request-vjh



### Regulations XIII and XX Modeling Analyses

Provide (in the tables below) the emission rates and stack parameters that will produce the highest impacts.

Operating Mode (provide whichever one applies): startup, 100% load w/out duct firing, 100% load with duct firing, etc. Note, provide all of the operating modes used to determine the 8-hour, 24-hour, and annual averages.

Stack Parameters: provide the Case Number from Page H-160 and H161 that corresponds to the emission rate.

The background ambient air quality concentrations are based on Year-1998 through Year-2000 air quality data from the Burbank monitoring station (station number 069).

#### **Reg XIII Modeling Inputs**

Pollutant	Averaging Time	Operating Mode	Emission Rate (lbs/hour)	Emission Rate (grams/sec)	Stack Parameters
CO	1-hour	• Start-up	• 285.00	• 35.91	• GE Case No. 6 353.24 °K 11.35 m/s
	8-hour <sup>1</sup>	• 1.5 hours of start-up  • 6.5 hours at 100% load with duct firing.	• 53.5  • 26.794	• 6.741  • 3.376	• SW Case No. 6 353.24 °K 11.35 m/s • SW Case No. DF 358.74 °K 18.45 m/s
PM10	24-hour <sup>2</sup>	• 2.1 hours of start-up,  • 12 hours of duct burning at 100% load, • 9.9 hours at 100 % load	• 1.0417  • 9.0  • 4.9524	• 0.13125  • 1.134  • 0.624	• GE Case No. 6 353.24 °K 11.35 m/s • SW Case No. DF 358.74 °K 18.45 m/s • SW Case No. 2 365.85 °K 19.01 m/s
	Annual Geometric Mean <sup>3</sup>	• 52 hot starts, 52 warm starts, 104 shutdowns, • 1,000 hours at 100% load with duct firing,  • 1,083 hours at 100% load	• Start-ups and shutdowns = 0.3621 • 2.0556  • 9.7063	• Start-ups and shutdowns = 0.04562 • 0.259  • 1.223	• GE Case No. 6 353.24 °K 11.35 m/s • SW Case No. DF 358.74 °K 18.45 m/s • SW Case No. 2 365.85 °K 19.01 m/s

<sup>1</sup> Emission rates averaged over a 8-hours period.

<sup>2</sup> Emission rates averaged over a 24-hour period.

<sup>3</sup> Emission rates averaged over 8760-hour period.



### Reg XIII Modeling Results

Pollutant	Averaging Time	Max GT/HRSG Impact (ug/m3)	Background Concentration (ug/m3)	Total Impact (ug/m3)	Most Stringent Air Quality Standard (ug/m3)	Allowable Significant Change (ug/m3)
CO	1-hour	247.51	10,307	10,555	23,000	1,100
	8-hour	30.65	10,307	10,338	10,000	500
PM10	24-hour	2.42	82	84.4	50	2.5
	Annual Geometric Mean	0.25 <sup>1</sup>	40.36	43.61	30	1.0

<sup>1</sup> Concentrations from ISCST3 are based on a mathematical mean.

### Reg XX Modeling Inputs

Pollutant	Averaging Time	Operating Mode	Emission Rate (lbs/hour)	Emission Rate (grams/sec)	Stack Parameters
NO2	1-hour <sup>1</sup>	<ul style="list-style-type: none"> <li>Start-up</li> </ul>	<ul style="list-style-type: none"> <li>23.00</li> </ul>	<ul style="list-style-type: none"> <li>2.898</li> </ul>	<ul style="list-style-type: none"> <li>GE Case No. 6 353.24 °K 11.35 m/s</li> </ul>
	Annual <sup>2</sup>	<ul style="list-style-type: none"> <li>52 hot starts, 52 warm starts, 104 shutdowns, 1,000 hours at 100% load with duct firing,</li> <li>1,083 hours at 100% load</li> </ul>	<ul style="list-style-type: none"> <li>Start-ups and shutdowns = 0.7865</li> <li>2.0635</li> <li>11.079</li> </ul>	<ul style="list-style-type: none"> <li>Start-ups and shutdowns = 0.0991</li> <li>0.260</li> <li>1.396</li> </ul>	<ul style="list-style-type: none"> <li>GE Case No. 6 353.24 °K 11.35 m/s</li> <li>SW Case No. DF 358.74 °K 18.45</li> <li>SW Case No. 2 365.85 °K 19.01 m/s</li> </ul>

<sup>1</sup> Emission rates averaged over a 8-hours period.

<sup>2</sup> Emission rates averaged over 8760-hour period.

### Reg XX Modeling Results

Pollutant	Averaging Time	Max GT/HRSG Impact (ug/m3)	Background Concentration (ug/m3)	Total Impact (ug/m3)	Most Stringent Air Quality Standard (ug/m3)	Allowable Significant Change (ug/m3)
NO2	1-hour	19.97	339	358.97	470	20
	Annual	0.27	86	86.27	100	1